HORIZON

SUMMER 1965

HORIZON

SUMMER, 1965 · VOLUME VII, NUMBER 3

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Dante, Giotto, and the Future

Only poets and artists, we have often been reminded, can synthesize the life of an epoch. In this issue of HORIZON are considered two of the most eloquent summary statements that have ever been made by poet and artist about the human drama—Dante's *Divine Comedy* and Giotto's cycle of frescoes in the Arena Chapel at Padua, both completed within the same generation.

With Morris Bishop's article on the pages immediately following, HORIZON joins in celebrating the seven-hundredth anniversary of Dante's birth. Homage is being paid to the immortal poet on both sides of the Atlantic during the current year. From Italy it is reported that the massive tower of Porciano, overlooking the Casentino Valley near Florence, is to be restored as an enduring monument to Dante's brief sojourn there at one point in his exile from his native city. According to an old story, when a shift in the political winds forced him to flee this haven in turn, he was accosted on a mountain path by an armed party of Florentines sent to capture him. Not recognizing the poet, the leader of the band asked him if Dante was still at Porciano. "He was still there when I was there," Dante is said to have answered—and trudged on, unhindered, to his next refuge.

Another story recounts that Dante had earlier journeyed to Padua and was there the guest of Giotto, then completing the great series of frescoes discussed by John Canaday on pages 92–107. The two men were close friends, and in the *Divine Comedy* Dante hailed Giotto as the greatest painter of their time—a judgment reiterated by Petrarch, Boccaccio, Vasari, Lorenzo the Magnificent, and innumerable others on down to our own day.

In his youth, it is told, Giotto was a shepherd boy. Later in life, appropriately, he joined the wool guild, and as a practical man of affairs and a capitalist he flourished. He also became probably the most highly paid artist in Italy. He died rich in lands and in money—somewhat ironically, since he had established a large part of his fame in the service of the Franciscans depicting the virtues of poverty as demonstrated in the life and ordinances of Saint Francis of Assisi. Giotto was aware of the practical dangers and the exaggerations that could blemish the practice of poverty as a spiritual discipline. In the end he preferred the hard-won affluence of his later years to the involuntary poverty of his childhood and to the professed poverty of his Franciscan patrons.

Measured against the pace of social and cultural developments over the centuries preceding the Ren-

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HORIZON

A Magazine of the Arts

SUMMER, 1965 · VOLUME VII, NUMBER 3

aissance, Giotto and Dante lived in a time of rapid change—a time when radical new concepts were altering the outlook of man on his world. However, it may be that, measured against the accelerating transformation of our own society, the Renaissance will come to seem like a relatively minor cultural revolution in the history of humanity. In "The Future as a Way of Life" (pages 108–115) Alvin Toffler suggests that the changing conditions of life we are now experiencing are so profound that they represent a break in historic continuity comparable in importance only to the shift from barbarism to civilization, first achieved between five and ten millenniums ago. Mr. Toffler urges us to prepare for, and brace ourselves against, the shock of a future way of life that is arriving with such dizzying speed that it could alienate us from our most cherished cultural traditions. To select one formidable statistic from Mr. Toffler's story: within the next generation there will probably be as many human beings swarming on earth as have lived in all past history (a prediction that has its lurid overtones in the seasonal congestion on Funk Island, as described on pages 32–38).

Dante also envisioned a future way of life, both here and in the hereafter. In his view the population problem was confined largely to hell. The way to paradise appears to be still as perilous and uncertain as he so vividly described it. THE EDITORS

All correspondence about subscriptions should be addressed to: HORIZON Subscription Office, 379 West Center St., Marion, Ohio 43301.

Single Copies: $ 5.00

Subscriptions: $16.00 per year in the U.S. & Canada; elsewhere, $17.00

Annual indexes for Volumes I–VI are available at $1 each. A cumulative index for Volumes I–V is available at $3. HORIZON is also indexed in the *Readers Guide to Periodical Literature*.

The editors welcome contributions but can assume no responsibility for unsolicited material.

Title registered U.S. Patent Office

Second-class postage paid at New York, N.Y., and at additional mailing offices.

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COVER: Philippe de Champaigne was Cardinal Richelieu's favorite painter, and the artist apparently found his august patron a congenial subject—for he painted at least four full-length portraits of him (there is one on page 20), as well as this Hydra-headed version. The latter was painted at the request of one Mocchi, a sculptor who was thus enabled to make a bust of Richelieu in Rome while its subject remained in Paris. Although it is invisible in this reproduction, an inscription over the right-hand profile reads: "*De ces deux profiles cecy est le meilleur.*" The painting is now in the National Gallery, London. An article about Richelieu begins on page 20.

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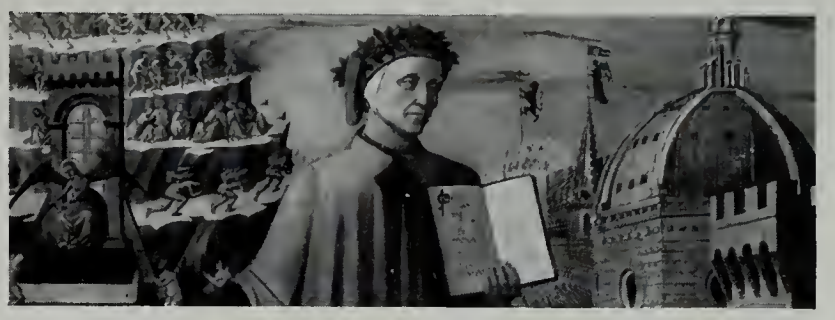
DANTE'S PILGRIMAGE



It began at the midpoint of his life, in the first lines of a poem. He called his account a "Comedy." Later times, unwilling to accept so modest a title for so great a work, have insisted on adding "Divine"

By MORRIS BISHOP

Suppose an ex-Senator in disgrace should write a giant book examining theories of government and proposing a new national policy; suppose he should reveal Washington's public and private scandals, exalting his friends and condemning evildoers to everlasting punishment; suppose he should establish a moral system for the purgation and perfection of the human soul; suppose his thought should lead him to theological science fiction, taking off into space to traverse the infinite universe, attaining to the very presence of God; suppose he should intersperse in his work profound comments on philosophy, science, language, music, art; suppose all this and you will have a modern parallel for Dante and his achievement.

The *Divine Comedy* is one of the supreme imaginative creations in human records. It must be found on every five-foot shelf, in every list of great books. It is the greatest Catholic poem, as *Paradise Lost* is the greatest Protestant poem. It is the basis of Italian literary education; and in the American mind it has colored our common conception of Hell and Heaven—thanks to Dante, even the demons and the angels have for us a faintly Italian look.

Great books are made by great men. There is a critical school which maintains that the work alone exists, that we waste our time in trying to find the maker. This is not so. The only books worth reading are those written by men who feel acutely, who think straight and deep, who command utterly their instrument of language. The reader turns inevitably from the words and thoughts to the men who conceived them. Our interest in the writer is natural and necessary. When we have learned all we can about him, we return with a new understanding to the work. Since what we seek in reading is an enlargement of ourselves, we may find it in the greatness of a man and his work together.

The man Dante—or Durante—Alighieri was born in Florence in May, 1265. His paternal ancestry was ancient and noble. His great-great-grandfather, Cacciaguida, knighted by Emperor Conrad III, died in the Holy Land during the Second Crusade. Dante was very proud of him and made him representative of the old lost Florentine virtues through three cantos of the *Paradiso*. The family belonged to the Guelph party, which supported the pope, and which represented, in Florence, the minor nobility and the mercantile class, in opposition to the Ghibellines, partisans of the emperor and of Italy's feudal nobility, largely German. Dante cut his fruit at table in the Guelph manner, straight down, not crosswise like a Ghibelline; he wore his cap feather and folded his napkin in the party style. The Alighieris' pride increased as their fortunes dwindled. Dante's father was called a banker; he seems to have been, rather, an unsuccessful moneylender.

Dante, early orphaned, was given the education of a gentleman. He apparently learned to fence, hunt, dance, draw, and make music. He learned also how to live on borrowed money, and was often deep in debt. He showed while young his ability as a poet of love, and was admitted to the small society of Florentine intellectuals. He was affianced as a boy to Gemma Donati, poor relative of a powerful family. They were married at a proper age and had three or four children.

Marriage did not interfere with his devotion to Beatrice Portinari. They met when he was a boy of nine and she only eight. She was dressed in "the most patrician of colors, a subdued and decorous crimson." His heart spoke: "Here is

This frontispiece of a late fourteenth-century Italian manuscript pictures Dante, in a red robe, guided by Virgil, in blue, exploring the successive circles of Hell as described in the Divine Comedy. *Michelino's painting, c. 1465 (detail above) is one of the earliest individualized portraits of Dante.*

a god stronger than I, who shall come to rule over me." And his mind said: "Now your bliss has appeared." And the natural spirits, dwelling in his vital organs, added: "Alas, wretch that I am, from now on I shall be troubled often!" In youth he sought her out. Once, when he was eighteen, he encountered her in the street, dressed all in white, between two older ladies. She bowed graciously, and Dante was invaded by a flood of bliss. He staggered to his lonely room as if drunk. To forestall gossip, he pretended to pay court to another, kindlier lady; and Beatrice was offended. She laughed at his infatuation. He wrote for her (and also for his literary friends) a series of poems confessing his immaculate love. This is about all there is to their story, as he tells it in his *Vita Nuova (The New Life)*. Beatrice married a rich banker and died in 1290, when she was only twenty-four, but her image continued to shine in Dante's spirit. He said: "I hope to write of her that which has never been written of any other lady."

How did Signora Alighieri, Gemma, take her husband's adoration of Beatrice? Probably he read his poems aloud to Gemma and she applauded. The code of courtly love did not interfere with domestic harmony.

Dante continued his studies, especially of the Latin and Provençal poets and of the rediscovered physics and metaphysics of Aristotle. He visited "the school of the monks and the disputations of philosophers." His studies affected his eyesight: "the stars appeared to me shadowed by a whitish blur." He had, of course, no spectacles.

Florence was at this time enjoying a great mercantile prosperity, with an influx of job hunters from the countryside. The Ghibellines had about disappeared in the city. The Guelphs divided into two parties: the Whites, representing the middle class and minor gentry, hostile to papal claims for domination of Tuscany, and the Blacks, pro-papal, allying the high nobility and the proletariat. Dante was a White. Since, in the industrial republic, only guild members could qualify for official posts, Dante joined the guild of physicians and apothecaries, as today a Londoner may enroll in a Worshipful Company of Curriers or Cordwainers, though quite unable to curry or make shoes. From 1295 onward Dante held many responsible civic appointments. In 1300 he was elected prior, thus becoming a member of the highest governing body of Florence.

Dante vigorously opposed the temporal claims of Pope Boniface VIII, and narrowly missed excommunication. He was one of three envoys to the pope in October, 1301, and during his absence from Florence the Blacks gained control. He never saw his native city again. In January, 1302, he was officially accused of graft, embezzlement, and disturbance of the peace. The judgment and the penalty were included with the charge. He was sentenced to a fine, banishment for two years, and disqualification from ever holding public office. In March a second sentence added that if he should ever return to Florence, he would be burned alive.

Thenceforth Dante was an exile—homeless, propertyless,

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Aside from an occasional frontispiece, manuscripts of the Divine Comedy *were usually ornamented with simple borders until well into the fourteenth century. But by the last quarter of the century the poem had become so highly regarded that illuminators were commissioned to add brilliantly colored initials at the opening of each of the three books. For these a convention that was seldom violated framed Dante in his study in the initial letter "N" of the* Inferno *(left), Dante and Virgil in their boat within the loop of the "P" that opens* Purgatorio *(right), and the Virgin Mary within the "O" of the* Paradiso *(see opposite page).*

living by shifts and the bounty of the great, a courtier, a parasite, a beggar. "The world is my fatherland, as the sea is the common country of fishes," he wrote; and he recalled his pains and humiliations in vibrant lines in the *Paradiso*:

Thou shalt leave each thing that most tenderly
thou lov'st; and this, of arrows from the bow
of exile, is the first that it lets fly.
Thou shalt make proof how salt the taste doth grow
of others' bread, and how it tires the feet
still up, still down, by others' stairs to go.
And what shall gall thee most, will be to meet
the company, stupid and evil swine,
*with whom thou shalt be cast into this pit.**

He could not agree with the other exiled Whites, nor could they with each other. This is the perpetual story of émigrés. He tried to form his own party, turning more and more to Ghibellinism. In the midst of Italy's divisions, despotisms, futilities, he insisted that the country must have a powerful ruler who would carry on the traditions of the Roman Empire. This emperor would oppose the usurpations of the popes. Thus the spiritual and temporal powers, both sanctioned from on high, were each to rule contentedly in their own domain.

In 1310 the new king of Germany, Henry VII, descended into Italy to receive the crown of the Holy Roman Empire from the citizens of Rome. He was a high-minded ruler who proposed to appease all quarrels, recall the exiles to their cities, and make peace between Church and Empire. Dante welcomed his purpose ecstatically and paid him personal homage. But Henry died suddenly in 1313, en route to his final goal, the siege of Florence, and Dante's high hopes were dashed. He tried in vain to assume a political role. He exhorted the Italian cardinals to elect an Italian pope; to return from the papal seat in Avignon, which they had occupied since 1309, and restore Rome. Florence offered him amnesty, with humiliating conditions. He refused them and was again condemned to death.

His last years are obscure. His wanderings came to an end in Ravenna, where he was warmly received by the local despot. He had his children with him, and probably his wife. He had barely completed the *Divine Comedy* when he died, on September 13 or 14, 1321.

"Our poet was of medium height," says Boccaccio, who knew many of his friends. "He had a long face, an aquiline nose, large jaws, and his lower lip was more prominent than the upper. He was slightly stoop-shouldered, and his eyes were large rather than small. His coloring was dark; his hair was curly and black, and he seemed always melancholy and thoughtful." This is the face shown in the fresco in Florence's Palazzo del Podestà, often attributed to his contemporary Giotto, and in other early portraits. This is the image we carry in our minds, now that the face of flesh has so long moldered.

Dante's inward self, his character, is revealed both by the external record of his life and by the communications explicit and implicit in his work. He was thinker, poet, and man of action; he possessed, therefore, a sharp analytical mind, an imagination that would fly high and return at command, and a sense of immediate realities. He was ardently religious, but he was no contemner of this world; he longed for earthly fame. He was emotionally charged; furious passion drove him to his convictions and his deeds. His adoration of Beatrice was more than human (and also, conveniently for his comfort, a little less than human). His love and hate of Florence, his admiration and loathing for individuals, his anger, pride, and humility, are so excessive as to be sublime. In life he could control his passion to constancy: "I feel myself foursquare against the blows of fate." But in his work he could subdue his passion to fit an ordered frame, in careful meter and rhyme.

During his exile Dante wrote several important works: the *Convivio*, or *Banquet*, a commentary on love, virtue, and poetry; *De Monarchia*, an exposition of his political philosophy; *De Vulgari Eloquentia*, a study of language and a defense of the vernacular as a literary medium. Only *De Monarchia* is finished. As appealing as these works are to special curiosities, they hardly touch the average reader; for him, as for us all, the one book, the great book, is the book Dante called his *Commedia*. He explains that he calls his poem a comedy because it begins in adversity and ends happily, and because it is couched in a familiar style. Aftertimes have agreed to call it the *Divine Comedy*.

The *Divine Comedy* is, first of all, a confession, proceeding from anguish of spirit. Recall the famous opening lines:

* All quotations from the *Divine Comedy* are from the verse translation by Geoffrey L. Bickersteth, University Press, Aberdeen, 1955.

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At midpoint of the road we mortals tread
I came to myself in a dark wood, for there
the way was lost that leads us straight ahead.

"At midpoint of the road" means Dante's thirty-fifth year, or 1300. Dante was immersed in Florentine politics; at the same time he underwent a secret spiritual crisis. He was tortured by a conviction of sin, by loss of hope, by a sense of God's distance or absence. This state is familiar in the history of every religious experience. The whole of the *Divine Comedy* is the drama of sin and redemption, the story of the sinner who descends to the lowest depths and rises again through purgation to salvation. Or it is the story of the sinner's cry for help, of the coming of grace, of deliverance by divine love. It is the story of every man, whatever his religion, who becomes conscious of his abjection and who longs to escape from it, to "sit at that table where the bread of the angels is eaten."

The impulse, then, for the writing of the *Divine Comedy* was private and personal, coming from the sense of sin mingled with desire for release from sin. Dante's poem is a profession and proof of faith, and it is a supplication for immortality in the next world and in this. He had already written his *Vita Nuova;* now he wrote a book on Death—and after. The *Divine Comedy* is his own pilgrim's progress, and an invitation to all men to join him in his pilgrimage.

Beyond that, Dante's purpose was to save the world. He would display to men—particularly to Italians, and particularly to Florentines—all their burden of evil. He would reveal the reasons for the perversion of virtue, and he would demonstrate how the individual, and mankind, could trample evil underfoot and could restore the operation of divine law on earth; and he would offer a heavenly vision of man's possible, ultimate bliss. He presented a revelation, but a serviceable revelation, an attainable ideal for all times.

Dante explains his conception of his own work in a letter to Can Grande della Scala, imperial vicar of Verona. (It must be noted that there is a minority of Dante scholars who doubt the letter's genuineness.) His *Commedia,* he says, is unique—in title, subject, and form. The sense is not single but quadruple. First is the literal meaning, the story of adventure; then the allegorical meaning, of which the literal statement is a mere representation (an allegory he defines elsewhere as "a truth hidden under a beautiful lie"); then the moral meaning, useful for the guidance of our everyday behavior; and finally the anagogical meaning, or the mystic revelation of spiritual truth. The style he has chosen is deliberately low and humble, the common speech of housewives. His aim is to help free the living from their state of wretchedness and to bring them toward the state of felicity. His belief, his philosophic creed, is briefly this:

BRITISH MUSEUM/YATES-THOMSON MS.

Later, the poem was more elaborately illustrated. One of more than 115 narrative pictures from a fifteenth-century Sienese manuscript shows Dante and Virgil descending into the Seventh Circle of Hell, met by centaurs guarding the River of Blood.

all phenomena lead to God; all that has being has it from Him. All essences are caused, except the First Essence. Causation comes from nature or intellect, and nature is the product of an intelligence. Inferior intelligences receive and reflect the rays of the higher intelligence. The divine ray penetrates and illumines essence and being. All motion results from an external force; movement is desire, *appetitus*. But beyond all the heavenly spheres dwells the source of light, God himself. In His presence desire and motion cease.

All proceeds from Dante's view of mortal existence as a testing, a preparation of the soul for its possible bliss. Once this is accepted, his cosmogony—Hell, Purgatory, and Paradise (or infinite Heaven)—follows almost necessarily. Evil must be consigned to its everlasting quarters; the souls to be saved must be purified for residence in Heaven; they must then be assigned to their celestial seats and occupations. The substance of the *Divine Comedy* is a series of particular judgments, of implicit questions and answers, like Aquinas's *Summa Theologica*. Dante questions himself about the nature of sin, punishment, beatitude; he answers himself with concrete but symbolic judgments of special cases.

His great discovery was that he could turn his philosophical speculations into a narrative, a fiction, by using the simple and ancient device of the journey. In order to speak to all men he must tell the story of one man, transcending death, visiting the world of the dead and returning with his message for the world of the living. Thus he could encounter innumerable characters, the men of the past and present, his own friends and enemies. He could analyze their inmost selves; he could show how their qualities, such as fortitude and faith, or greed, sullenness, and wrathfulness, crossed "the threshold of assent," as he calls it, to become acts, and how the acts would be punished or rewarded.

For his journey Dante needed companions to serve as guides and interlocutors. Virgil, or Reason, is the guide through Hell and Purgatory. (Rather a curious identification; the historic Virgil was no great thinker or scholar, and was indeed a pretty dubious character. Aristotle would have better filled the role of Reason. But Dante loved Virgil, and he had no great affection for Aristotle.) Virgil, as a pagan and as human Reason, could not enter Heaven. He is therefore replaced by Beatrice, or Revelation. Near the highest reach of Heaven she too fades away; her place is taken by Saint Bernard, or Intuition. Reason, Revelation, and Intuition are our three successive guides in our search for God.

A good many readers, learned and unlearned, have been startled to find Beatrice in this trinity. Beatrice, the respectable banker's wife, would herself have been startled. But Dante loved her spiritually and was determined to prove his

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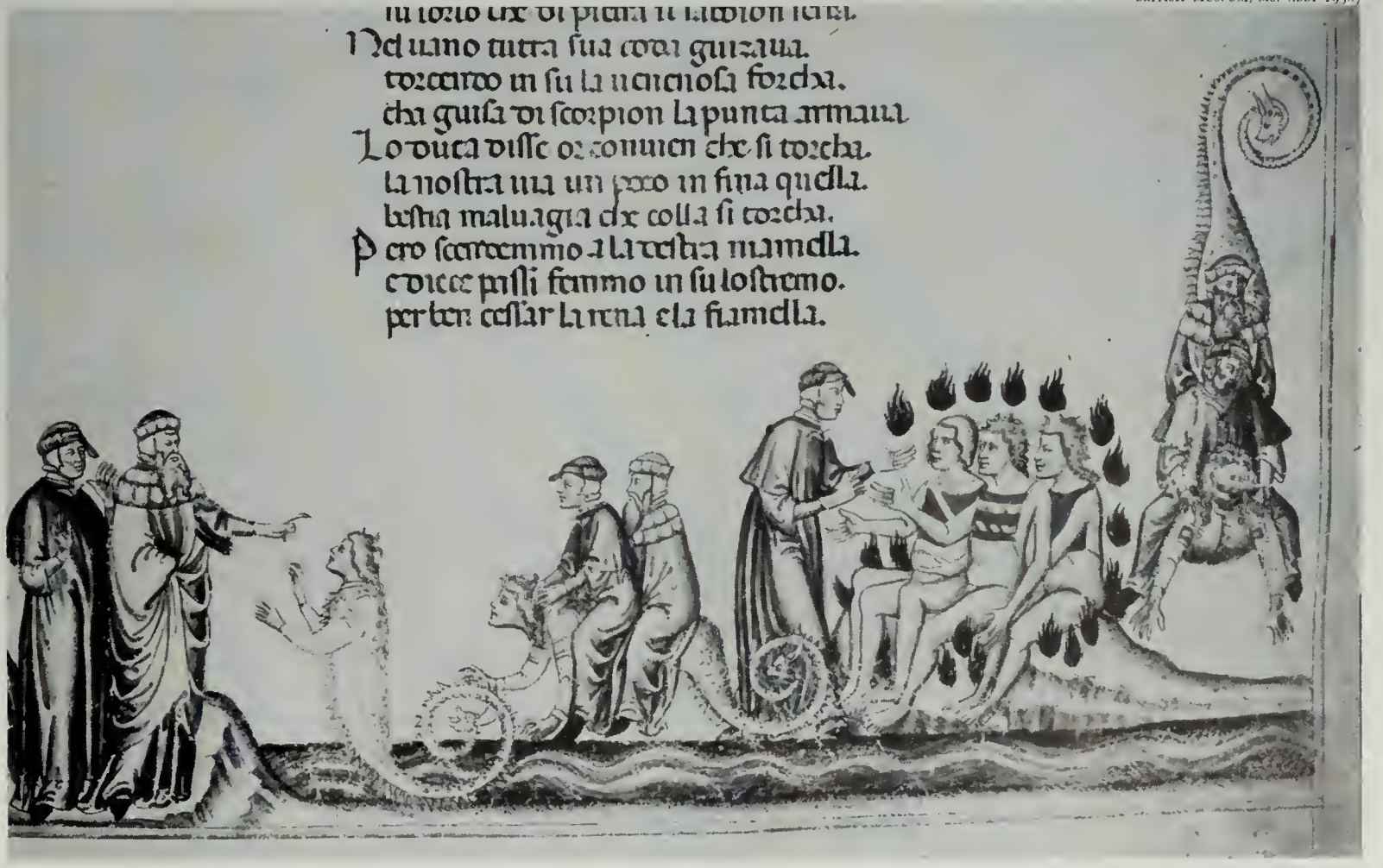

More modest in execution, this late fourteenth-century Neapolitan miniature nevertheless comes closer to Dante's conception of Hell as a place of inner torments than the realistically drawn, monster-infested purlieus of the Sienese manuscript opposite.

E R correr miglior acqua alza le uele
omai la nauicella del mio ingegno
che lascia dietro a se mar si crudele
Et cantero di quel secondo regno
doue lhumano spirito si purga
et di salire al ciel diuenta degno
Ma qui la morta poesi resurga
o sancte muse poi che uostro sono
et qui Caliope alquanto surga

The manuscript commissioned about 1480 by Federigo da Montefeltro and completed under succeeding dukes of Urbino is remarkably rich in illustration. At the center of a drawing for Purgatorio *(right), Dante and Virgil watch the approach to the island of a shipload of souls, and in the foreground meet them. On the opening page of this manuscript (opposite) the first encounter of the poet and the philosopher is supplemented with smaller scenes. Canto I of* Paradiso *(far right) was the work of mannerist Giulio Clovio, who finished the illustrations in the sixteenth century.*

love magnificently. He was fulfilling his vow, "to write of her that which has never been written of any other lady."

The character that Dante assumes for himself in his great journey is that of the eternal tourist-journalist—curious about everything, demanding explanations, easily distracted and bewildered, clumsy, forever slipping and falling (in Hell), narrowly escaping the forks of demons. He is indeed a comic figure in the lower world, but as he climbs upward his figure and his words take on a proper enrichment.

Late on Good Friday of 1300, then, Dante, clutching at Reason's hand, descends into Hell, his own and the world's. It is a gigantic funnel-shaped pit reaching down to the center of the earth, a set of terraces narrowing in the descent like an open copper mine. Each level is devoted to the punishment of a particular sin; as one goes downward the sins increase in heinousness and horror. The upper five levels are the homes of sinners by incontinence—those possessed by lust, gluttony, avarice and prodigality, and anger. Then one enters Lower Hell, the City of Dis, where suffer forever the sinners by violence. And at the very bottom lie, in utmost agony, the sinners by fraud and treachery. Incontinence, violence, fraud; this is the scale of the increasing, deliberate will to evil; and these are the special temptations incident to youth, manhood, and age.

Each ring of punishment has its appropriate background setting, which has tempted innumerable artists, from Botticelli to Dali. "The infernal scenery is the poetic expression of an ever-increasing enmity toward man," writes Karl Vossler in *Mediaeval Culture*. "The scenery is therefore essentially dramatic, is part of the action and often becomes the action itself." Dante's blending of pictorial imagination, dramatic power, and moral fervor has drawn more readers to the *Inferno* than to the placid beauties of the upper world.

Dante and Virgil leave Hell at its icy bottom and climb outward and upward toward the other side of Dante's spherical world to emerge in the Antipodes. It is Easter morning. The two stand at the foot of Mount Purgatory, a great cone encircled by terraces. Here the elect come at death to be purged of evil, for punishment, for atonement, and for education for the life of the blessed. Each terrace is devoted to the medicinal treatment of a capital vice—from pride, the wickedest, up through envy, anger, sloth, avarice, and gluttony, to the least culpable, lust. These vices are due to passions perverted, and are the causes of sin, though not sins until they are converted, by an act of will, into deeds.

At the summit of Mount Purgatory lies Eden, the Earthly Paradise. Here Dante, purged of his sins, discovers that Virgil has quietly vanished, for Dante has transcended the guidance of Reason. He makes his confession and is absolved by Beatrice, or Revelation. He may now enter the Heavenly Paradise.

The third book of the trilogy, the *Paradiso,* presented a hard problem to Dante, as it does to the modern reader. Dante wanted it to be exactly the length of the first two parts; but in Heaven, immutable, timeless, the traveler's movements are spiritualized almost beyond the reach of sense. In place of sharp-drawn backgrounds we perceive only a shining haze. Dante fills in with long disquisitions on physics and astronomy, which interest chiefly the historian of science, and on philosophical and theological problems, which run the risk of interesting no one.

His theme in the *Paradiso* is the human soul's approach to God. Man understands God through an understanding of His mighty works. The harmonies of the physical world demonstrate the power and wisdom of the Almighty. But God is not merely power and wisdom; He is also love. His love for mankind is demonstrated by the Christian religion. God is the First Essence, the one cause of all. The human soul yearns to return to this first loving essence, to die into eternal life. And so the whole great poem rolls to its foreseen conclusion, the sinking of will and identity in divine love, which moves the sun and the other stars.

Throughout the *Paradiso* the device of the journey is preserved. Dante, holding fast to his celestial guides, mounts

LOUVRE—GIRAUDON

Dante's Bark *(above), shown at the Paris Salon of 1822, launched Eugène Delacroix as an artist and also revived Dante's odyssey as a sympathetic subject for monumental painting. This vision of the mortal poet and his classic guide on their precarious voyage across the river Styx reflects the dark side of the romantic temperament. In the* Simoniac Pope *(right), Delacroix's English contemporary William Blake recalls the fate of sinners who, in upsetting the proper order of Christian ethics, were made to suffer a fitting reversal in Hell. Henry Holiday's version of Dante's second meeting with Beatrice along the Arno in Florence (below), passionately described by Dante in his* Vita Nuova, *indicates the saccharine extremes to which later Pre-Raphaelites could go.*

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through the concentric spheres of the Ptolemaic cosmos. He visits successively the moon, Mercury, Venus, the sun (which is here an earth satellite like the others), Mars, Jupiter, Saturn, the heaven of the fixed stars, and finally the Empyrean, the home of God, beyond which lies nothing. In each orb he finds a class of the blessed, in ascending order of saintliness. The moon, for instance, is the abode of inconstant nuns, Mercury that of ambitious statesmen, Venus that of sensual lovers, and so on up to the heaven of the fixed stars, where dwell the Virgin Mary and the apostles.

At each stop Dante, forever the inquisitive reporter, meets some of the joyful elect, questions them on their history and their present state, and takes notes. He inquires into the everlasting difficulties that trouble the believer. For instance, how can a peasant by the banks of the Indus, who has never heard the name of Christ, be condemned for his infidelity?

All his volitions and his acts are good,
so far as human reason sees, nor fail,
in life or speech, of perfect rectitude.
He dies unchristened and an infidel:
where is this justice that condemns the man?
where, if without faith, is he culpable?

Dante's interlocutor replies merely: "Who are you, who dare to judge of God's justice? The Primal Will, and whatever chimes with it, alone are just." One cannot but feel that the interlocutor is dodging the question.

Again, Dante takes up the old agonizing problem of the resolution of predestination and free will. The whole course of his poem seems to sustain our free will, or freedom to sin or to choose virtue, with punishment or reward for our choices. Yet he is forced to celebrate the mystery of predestination, with a word of caution to mortals that we must not judge of it "because we find our crowning good herein, that what is willed by God we also will." Dante has not resolved the opposition; but no one else has either.

When all the discussions, in which we have a right to feel a certain aridity, have finished, Dante is admitted to the very presence of God. The last four cantos of the *Paradiso* are a triumph of poetic imagination. The world of matter fades; we are held in a weightless world of light. God, the source of the light, appears as a triple ring of three ineffable colors, a celestial spectrum.

As one who sees in dream, remains aware,
when the dream's gone, of all it made him feel,
while all he saw is lost beyond repair;
even such am I: my vision fades, until
it all but ceases, yet my heart is awed
by its sweet effluence which pervades me still.
Thus melts the imprinted snow by sunshine thawed;
thus was the wisdom of the Sibyl, writ
on frail leaves, to the breezes cast abroad.
O Light supreme, so far above the wit
of man exalted, let my mind again
with some pale semblance of thy beams be lit,
and make my tongue so eloquent that when
it chants thy glory, a future age may find
at least one sparkle of thee inspire the strain;
for, by returning somewhat to my mind
and sounding faintly in these verses, thou
wilt make men to thy victory less blind.

The vision fades. What sweet effluence remains for us, in our new-discovered world, after these six hundred-odd years?

We can accept only what we can apprehend, and the *Divine Comedy* makes severe demands upon our apprehension. Only a great reader can properly read a great writer; only a poet can enter fully into a great poem. Our judgment of Dante is a judgment of ourselves. If we say, "I found the book boring," we are at least honest, but we confess our incapacity as a reader, indeed as a person. One who is bored by Dante is himself a bore to the elect reader.

However, there are many ways of reading, perhaps as many as there are readers. Though the best reader of Dante is himself a passionate pilgrim, we need not go through our own Hell and Purgatory in order to appreciate Dante to the full. Other, more comfortable ways are open to us.

We may read the *Divine Comedy* merely as a story, as one of the mightiest examples of science fiction. As an adventure story it follows the familiar curve, down through menaces and terrors to a predicament from which there is no apparent escape, then upward, by the agency of courage and struggle, to a happy ending. The adventure takes place in strange, picturesque, ever-changing locales. It is enlivened by a host of characters, terrible or beautiful. It gratifies our taste for cruelty and our craving for beauty. It is filled with noble deeds, narrow escapes, surprises, even low comedy. It is the work of a master storyteller; one may ask no more of it than to be teased and lulled by the tale.

We may also read the book as poetry. Ideally we should read it in Italian, for no really adequate translation has been made and probably never will be. Dante deliberately couched his poem in the common speech of his Florence. His choice was bold and dangerous. Latin was the language of philosophy, law, and of all pretentious thought. The Florentine language, or dialect, had a short history and as yet only a meager literature. It had not yet settled into accepted styles, with distinctions between base and noble, or vulgar and refined, words and locutions. It had not so much "sedimentation" as present-day languages, says Michele Barbi in his *Life of Dante*. Barbi continues, "Dante was the real creator of Italy's poetic and national language."

Still, colloquial language, with its vulgar or comic connotations, has trouble in rising to sublimity. One of Dante's great achievements was to render the common instrument capable of sounding the glories of God in Heaven. He charged the speech of Florentine households with cadences and overtones resonant in his hearers' ears, and resonant still in ours.

Dante invented his own poetic form, the *terza rima,* with triple rhymes interlinked, so that an entire canto seems to lock together, as one reads, like a zipper. In English, with our paucity of rhymes, it is almost impossible to make a

terza rima that will keep the necessary rhyme scheme, the exact meaning, and the sweetness, sonority, verve, and melody of particular passages. But the quality of Dante's poetic diction is unmistakable. T. S. Eliot said somewhere that, knowing no Italian, he opened the *Comedy* and read a few lines and knew he was reading great poetry. Many who know no other Italian can quote: *"Lasciate ogni speranza, voi ch'entrate,"* or *"L'Amor che move il sole e l'altre stelle,"* or

> *. . . Nessun maggior dolore*
> *che ricordarsi del tempo felice*
> *nella miseria . . .*

The poetry of Dante must be felt; it can hardly be explained. Fortunately it is readily accessible. I will ask you to imitate T. S. Eliot and read a couple of examples in Italian. Do not protest that you have never had a course in Italian; read them anyway, with any old pronunciation:

> *Così parlommi, e poi cominciò: "Ave,*
> *Maria," cantando; e cantando vanìo*
> *come per acqua cupa cosa grave.*
>
> *Thus she addressed me and, beginning straight*
> *to sing "Hail Mary," passed in song away,*
> *as through deep water sinks a heavy weight.*

Notice the simple words, the prose order; the singing repetition of *cantando*; the dark sound of *acqua cupa;* the sinking suggestion of the four trochees *acqua cupa cosa grave.* Read it aloud again: *acqua cupa cosa grave.*

Or take the lovely picture of evening's approach:

> *Era già l'ora che volge il disio*
> *ai navicanti e intenerisce il core,*
> *lo dì c'han detto a' dolci amici addio;*
> *e che lo novo peregrin d'amore*
> *punge, se ode squilla di lontano,*
> *che paia il giorno pianger che si more . . .*
>
> *Now was the hour that shoreward turns the eye*
> *of men at sea and makes the bosom swell,*
> *the day they've bidden belovéd friends goodbye;*
> *and stabs with love as tolls a distant bell*
> *the newly started traveler if he hears*
> *the sound which seems the dying day to knell . . .*

(The translator misses the simplicity of the last line: "so that the day seems to weep that it is dying." But it is nevertheless very beautiful.)

In addition to the poetry of pictures, lines, and phrases there is a poetry of structure. Boccaccio recognized this: he says that the *Divine Comedy* has "a turbulent beginning, full of noise and discord, and a termination in peace and tranquillity." The structure is that of music and of architecture. We may admire special passages, as we admire a window or a pier in a cathedral; we must also stand back to wonder at the architect's achievement of the building itself. The *Divine Comedy* is the most magnificent poetic cathedral of the Middle Ages. Later times have never been able to outbuild it. It contains almost the whole of life, and its spires point upward beyond life.

The *Divine Comedy* may be read as a strange tale, or as poetry; it may also be read as instruction. It is a lesson of faith for the unfaithful. Dante wished his readers to accept his poem as the Book of Revelation was received in his time. So may we accept it as an apocalypse, even without credence, as we treat the Book of Revelation as a magnificent vision, without credence.

Many of Dante's dearest contentions have, of course, been swept away by time. His science is medieval; we do not believe in his Hell or his Heaven; his vision of a world ruled in harmony by emperor and pope has become ridiculous. There is no emperor, unless one is rising somewhere in the mysterious East. The pope has become hearty and human, a good fellow, kindly toward Jews and heretics. Dante's book may well seem to us a lesson only for times long past.

But not quite. For some few it has been, and is, a guide to spiritual life. Dismiss all that is antiquated; something precious and essential remains: the revelation of man at odds with the world and with himself, conscious of sin, longing for salvation.

We have not got rid of sin by renaming it a guilt complex. Sin remains; and the sins of the modern world are more gigantic, more evil, than any Dante imagined. A sin must be a sin against something. We may say that a sin is a dereliction against our potential development; or a crime against the state; or an antisocial act. We have devalued sin, and by so doing we have devalued our own behavior and the meaning of our existence. But for Dante a sin is an offense against God, a grief to God, of whom we are a part. Sin, prompted by jealous Satan himself, is our perpetual temptation. Each of our acts is watched from on high and from below. Saints and demons battle for our souls, which are worth the struggle of Heaven and Hell. We are *important;* each of us is a great prize.

We have not abolished sin by renaming it, or by not thinking about it. The *città dolente* is eternal; the inscription on the gates of Hell reads: "Before me were no things created; and I shall last to eternity."

Dante's message is, then, a warning, a timely warning, against sin. The *Inferno* is the picture of sin's loathsome consequences. The *Purgatorio* shows us how, by our own effort and with divine aid, we may escape from sin. The *Paradiso* is the promise of our envelopment in eternal love —*L'Amor che move il sole e l'altre stelle.*

Teacher, translator, biographer, historian, and poet, Morris Bishop is most at home with French and Italian literature. He wrote the article on Pascal in Horizon *for January, 1963.*

For further reading: translations of the Divine Comedy *both in poetry and prose are innumerable. In addition to Bickersteth's admirable version, the excellently annotated edition by Dorothy L. Sayers and Barbara Reynolds (Penguin Books, Baltimore, 1962) is among the most recent. For a contemporary appreciation of the poet, Boccaccio's* Life of Dante *is a colorful, if not entirely reliable, account.*

*This water color, showing Dante with the soul of Saint James (*Paradiso, *Canto XXV), is one of a hundred that Salvador Dali painted between 1950 and 1959 to illustrate an especially de luxe edition ($6,000 a copy) of the* Divine Comedy.

PHOTO L. TOBLER—*Realités*

Clough Williams-Ellis: "a later Merlin"

Through binoculars the shoreline of Tremadoc Bay, where the mountains of North Wales meet the Irish Sea, looks majestically austere: moorland and mountain above, long lines of empty sand, a huddle of gray where the little slate port of Portmadoc stands beside its harbor. Harlech Castle juts pugnaciously from a ridge: all is fierce, misty, Byronic—"there is no corner of Europe that I know," wrote Hilaire Belloc, "which so moves me with the awe and majesty of great things as does this mass of the northern Welsh mountains seen from this corner of their silent sea."

But as the stranger sweeps his glass around this tremendous panorama, something bright, small, and incongruous strikes his eye; and incredulously focussing his lens upon it, he finds it to be a sort of faery settlement, half-hidden by woods at the water's edge. A golden ball flashes on a tower. What looks like a campanile protrudes above the trees. Bright Italianate pavilions cluster beside the sea. It seems to be a cross between Portofino and one of Canaletto's architectural caprices; in fact it is the sprightliest of modern English follies, Portmeirion.

I say English, for though it stands in one of the Welshest corners of Wales, there is to the spirit of any folly, especially one as extravagant as this, an element of urbane nonsense that springs out of eighteenth-century England. Portmeirion is the creation of a Welsh patrician with a taste for the English style. His name is Clough Williams-Ellis, he is eighty-one years old, and he looks like a figure from the Augustan or perhaps Arthurian past: a large, pointed, flamboyant man, who likes to wear knee breeches, yellow stockings, and bow ties, and strides through this Celtic landscape like a later Merlin.

He is an architect and town planner, with a masterly understanding of that English idiom which is curiously

In Praise of a Folly

Portmeirion is a gay architectural caprice pretending to be a town—Portofino, perhaps, incongruously translated to the wild Welsh coast

By JAMES MORRIS *Photographs by* EVELYN HOFER

compounded of Palladian splendor and native-island quirk. He has a passion for landscape, and an intense, almost religious loathing of those who muck it up with jerry-building and speculation. Some thirty-five years ago he decided to erect a group of buildings, on a properly virgin site, in which he could express most of his architectural predilections: an obsession with depth and vista, a taste for humor and uninhibited color, and a conviction that the loveliest natural scenery in the world can actually be enhanced by the artist's touch. He wanted to build a folly, but a folly plus—it would be fun in itself, it would embody these heartfelt principles, and it would pay its own way.

For years he wandered about the British coastline looking for a worthy site, and in the end he plumped for his own corner of these islands—for a small, private peninsula clad exotically in semitropical shrubs and overgrown with brambles, striking into the Portmadoc estuary where the Dwyryd River enters the sea. An old Welsh mansion at the water's edge was the only substantial building on it, and a thick tangle of trees and undergrowth cut it off protectively from the mainland proper. Here Williams-Ellis built his folly, around and above the old house—fancy upon fancy, prejudice after infatuation, some old buildings replanted, some vivaciously new buildings added—until he had established an entire village that was like nowhere else on earth. By the 1930's Portmeirion existed as a place. The very first maps that recognized it were the charts the Germans made when they thought of invading these parts.

I am not myself much addicted to whimsy in architecture, and I dislike the pastel shades and grace notes that are hallmarks of Williams-Ellis's style. So whenever I go to Portmeirion, I have first to overcome prejudices of my own. The mannered self-consciousness of it all, so precious, so resolutely surprising, irritates me from the start. As I

"It is hard to envisage turnips for sale in the plaza of Portmeirion"

drive through the shadowy trees to the peninsula, though, past a monumental mock castle on the right and a sandy glimpse of the estuary on the left, as I pass beneath the severe gatehouse that is the portal of Portmeirion, and find myself once more amidst all its sparkle, grace, and illusion, I always have to admit that I am wrong again, and that this little false village is a proper work of art and intellect.

To finance the thing, Williams-Ellis built his folly as a hotel. The original mansion is the core of the complex, with a restaurant, bars, and sumptuous public rooms; and scattered through the village are cottages and apartments which the visitor may rent, discreetly tucked away in unsuspected privacy. Around this peculiar hostel there is assembled an even odder comity. Williams-Ellis says that Portmeirion could function as an ordinary, working village, but it is difficult to imagine this *jeu d'esprit* absorbed into the fustian texture of Welsh rural life. I can see it as an artistic colony, perhaps, or the love nest of some hedonist autocrat, but it is hard to envisage turnips for sale in the plaza of Portmeirion.

Let us enter it together, beneath the crested arch of the gatehouse. Everything inside is meticulously informal, jumbled but impeccable, built on many different levels on the hillside down to the sea. On one side there are clapboard shops and cottages around a little courtyard. On the other stands a large, vaguely Florentine dome. The Jacobean front of the Town Hall down the road came from a demolished manor house. The eighteenth-century colonnade above the lawn was built by a Quaker copper smelter in Bristol, and moved here stone by stone in 1959. Here is a line of cottages like a Cape Cod waterfront, there a suave Regency veranda beside a pool. Roofs are tiled and steeply pitched; staircases tumble helter-skelter everywhere; there are unexpected arches, cypress trees, ele-

"Pastel shades and grace notes"

"A large, vaguely Florentine dome"

"Clapboard shops and cottages"

"Elegant old lamps, unexpected arches"

gant old lamps, statues, alcoves, emblazoned coats of arms, and languid flowering shrubs in enormous urns.

The contrived fizz of the place is intoxicating, and we stagger through all this exuberance rather dizzily, until, climbing down the path between the heavenly rhododendrons, we find ourselves restfully at the water's edge, with the long white house behind us, a high-and-dry Welsh ketch beside the harbor, and across the water a superb theatre of Welsh hills, Moel Ysgyfarnogod, Rhinog Fawr, and Moelfre rising in dim grand balconies above Harlech. I can't quite define the effect of Portmeirion; I can only express my own reaction—something between a scoff, a gasp, and an ecstasy.

This anomalous prodigy is very famous. You can expect to meet almost anyone there, from a retired prime minister to a television actor learning his lines. It is a fantasy that appeals especially to the rebel traditionalist—ornery but not satirical. It is hostile only to prigs, bores, and despoilers; its eccentricity is all genial; and its charm is partly the serenity of a lost society with time, money, talent, and hospitality to spare.

I have a cottage high on the hills above, and from my terrace I can just make out the golden ball of Portmeirion on its tower top, invested by greenery. Sometimes it is the last thing I see when the sun goes down, gleaming there above the sea; and as I close my shutters I take it as a reassurance that the Philistines haven't won yet, that there is still room in the world for quixotry, proportion, and romance, and that if the worst really comes to the worst and I find we are out of eggs, I can always pop down to Portmeirion for hock and lobster.

James Morris has been everywhere and writes elegantly about it in books like Cities *and* The Presence of Spain.

FOR THE GLORY OF FRANCE

Richelieu, the supreme Machiavellian, not only made France the greatest nation in the West but also fostered the flowering of French genius. Today the political dominance is gone, but French culture still holds high sway

By C. V. WEDGWOOD

The "secret great Cardinal," as a contemporary once called Richelieu, was much more than an astute and cunning politician who knew how to gain and hold personal power. He was much more than a successful tactician in statecraft who established French dominance in Europe by a mixture of hidden diplomacy and open aggression.

He brought to politics a rare and comprehensive vision, believing that all the useful and beneficial activities of men (and of Frenchmen especially) could be furthered and made more fruitful by a strong state and an intelligent use of power. In his ruthlessness toward opponents, his development of a secret information service, and his manipulation of the press, he foreshadowed the modern dictators. Yet his ultimate goal had a generous grandeur: he wanted to see France peaceful and prosperous, great in all the creative arts, leading and dominating a pacified Europe. In his childhood France was torn by civil war, and during almost the whole of his life destructive conflicts raged in Europe. It is not surprising, therefore, that he saw the dominion of a strong and united state as the obvious solution and had no sympathy with individuals or minorities who threatened its power. But the state was not an end in itself; nor was war its principal object. It was to him the instrument through which men could fulfill themselves in peace and safety.

Armand Jean du Plessis de Richelieu—to give him his full name—was a controversial figure in his lifetime and has remained so ever since. We know him best from the portrait by Philippe de Champaigne (opposite): the pale, pointed face, the forceful mouth, the high-bridged nose, the intellectual forehead. His thin body, straight as a ramrod, is muffled in the red splendor of his Cardinal's robes. He stands reserved and remote. Nothing escapes the penetrating stare of those cold bright eyes.

His enemies liked to represent him as a sinister figure working with the help of spies to entrap his opponents, and surrounded by a personal bodyguard and secret police. This exaggerated image of him was later popularized by the historical novels of Alexandre Dumas and Alfred de Vigny. It is not altogether an invention: the Cardinal had a network of informers who kept him in touch with all that went on; he had his own bodyguard. But at a time when plots and assassinations were not unusual in politics, neither of these precautions was excessive. Two kings of France, Henry III and Henry IV, had been assassinated during Richelieu's youth, and two leading European statesmen, Wallenstein and Buckingham, were murdered during his tenure of office.

As he grew older, a new element of mystery was added to his conduct by reason of his failing health. He would transact much business in his darkened bedroom (he suffered greatly from eyestrain and headaches), or even from the recesses of his heavily curtained bed. In the last year of his life, when desperately ill, he traveled in a huge closed litter that he never left. At evening the walls of houses where he intended to spend the night sometimes had to be broken down so that it could be carried inside.

There was nothing occult about the power of Richelieu. It was founded on his altogether exceptional gifts. His *Political Testament,* setting out his views on the state, his massive correspondence, his *Memoirs,* all alike reveal an intellect of marvelous clarity and scope. He was calculating and secretive; he was adept at the art of misleading his enemies when occasion arose. But these were not the most important things about him. He had above all a capacity to remember a vast mass of detailed information and to apply his knowledge at the right moment and in the right way to the unfolding situation.

Nothing reveals his political genius more strikingly than the contrast between the condition of France when he first came to power and the condition of France when he died eighteen years later.

In 1624 France was threatened by the power of the Hapsburgs on every frontier. They ruled in Spain, Austria, and the Spanish Netherlands. They dominated northern Italy and much of the Rhineland. It seemed that nothing could

Cardinal Richelieu as portrayed by one of his favorite painters, Philippe de Champaigne

prevent them from virtually controlling the whole of western Europe and turning France into a satellite.

Internally France was also weak. The greater nobles enjoyed privileges which made them almost independent of the Crown, and if they thought their interests were threatened, they did not hesitate to rise in revolt and call foreign powers to their aid. During the previous century in France their rival factions had stimulated and prolonged bitter wars of religion. When peace was at last restored, it had been possible to solve the religious questions only by giving to the large Huguenot minority certain autonomous rights and military privileges, thus creating an independent and potentially hostile enclave within the nation.

The wealth and prosperity that French agriculture and industry could have created for the French people were thus choked by internal disorder and external threats. At the same time, an almost total absence of sea power hampered the expansion of commerce and left France's long, vulnerable coasts a prey to pirates.

By 1642, when Richelieu died, he had confirmed the power of France on all her land and sea frontiers, and had turned the tide against Spain and her allies. The French now occupied Alsace and held key fortresses on the Rhine, in the Alps and the Pyrenees. Only a few months after his death they won a victory over the Spaniards at Rocroi which destroyed the military reputation of Spain and established that of France for the next two centuries. The French navy, almost entirely the creation of Richelieu, now patrolled the coasts in war and peace. Commerce was expanding, and an important beginning had been made in colonial enterprise, notably in Canada. French coinage, after a period of severe crisis, had been stabilized, and the new gold coin, the louis d'or, first minted in 1640, was the purest in Europe. The Protestant minority, at the end of a misconceived revolt in which they had been defeated, had had to relinquish their military and civil privileges, and retained only their freedom of worship.

So much for the political and military achievement. But an expansion in all the arts of civilization had gone with it. In Paris and the great provincial cities new houses and churches were being built. A flourishing school of painting had its center in Paris. The Academy had been founded to encourage literature. The French drama, stimulated and inspired by the personal encouragement of the Cardinal, was gaining a reputation soon to be unrivaled in Europe.

Many gifted men and women had, of course, contributed to this achievement. Painters, architects, writers, soldiers, and administrators were not called into being by Richelieu: he simply found and used them. The French *salon*, for instance, that fruitful invention of polite society to which the intellectual life of France owes so much, was started by Madame de Rambouillet shortly before the rise of Richelieu. But it was under his ministry that the idea developed and spread and became an established part of the cultural scene.

Richelieu was undoubtedly a statesman of genius, but his conceptions extended beyond the sphere of politics. It is only when we look at his career as a whole that we realize how consistently politics was for him a means and not an

MUSEE CARNAVALET; RICHT: ARCHIVES PHOTOGRAPHIQUES

This view of Paris, looking toward the Louvre from the Pont Neuf, was painted in 1635, when Richelieu was at the height of his power. The bridge was then still new enough to merit its name, having been built in the early years of the century by Henri IV whose statue was placed upon it by his widow, Marie de Médicis. It was one of the busiest thoroughfares of the city.

Among the architectural embellishments of the Château Richelieu was the marble column at right, now in the Musée de la Marine in Paris. Its naval motif calls attention to the fact that Richelieu created the first Royal French Navy. Until his time, many ports had been privately owned and the ships had been commanded by nobles often at odds with the Crown.

end. Strong government was an element in a much grander concept of civilization.

Richelieu was not born to power; he had a long, slow climb, and many setbacks, before he could grasp it. He was born in Paris in 1585, the third son of a respectable court official who died when the boy was five. He grew up on the family estate in Poitou, and was at first trained for a career as a soldier. But later it became necessary for him to increase the family revenues by accepting nomination for a bishopric. He was hurriedly trained for the Church, and in 1607, at a mere twenty-one, he was ordained Bishop of Luçon.

At that time Henry IV was still on the throne of France, a strong and popular king under whom the people enjoyed an interval of prosperity. But in 1610 he was murdered. His widow, the stupid and obstinate Marie de Médicis, became regent for her nine-year-old son, Louis XIII. All power was concentrated in the hands of her unscrupulous Italian favorite, Concino Concini.

For an ambitious young man without personal influence there was at that time only one way up the ladder. This was to gain the support of a powerful patron who would help him to find some official post in the court circle. Richelieu attached himself to no less a person than Concini, and was soon rewarded by being made secretary to the queen mother. She, in her turn, was easily won over by the adroit flattery and efficient service of the courtly young bishop. Presently he rose a step higher and became one of the four principal secretaries of state.

But the young king bitterly hated Concini, and in 1617 the favorite was murdered with the connivance of the king. Louis himself now assumed power. Richelieu, as a protégé of the hated Concini, was immediately removed from his post as secretary of state. He was lucky to attract no further vengeance. For most of the next seven years he remained in the service of the queen mother, but was excluded from the real seat of power, the council of the king.

Although Louis XIII was very slow to overcome his suspicion of Richelieu because he had been Concini's friend, other people took notice of his ability and energy. Foreign ambassadors to France expressed surprise that so gifted a man should be excluded from the king's circle of advisers. The pope went so far as to make him a cardinal. But only after seven years of frustration was he at last, in 1624, appointed to the inner council of the king. Immediately the strength of his personality, his sure and swift decisions, and his intimate knowledge of every branch of politics made him the most influential of the king's advisers. He began at once not merely to dominate but to shape all the policies of the king. Yet, though Louis acted on his advice, Richelieu still remained very uncertain of the king's personal favor. For the first six years of his ministry his position was by no means secure.

The queen mother, once his friend, now bitterly resented the growth of his power; the queen, Anne of Austria, threw all her influence against him because she knew he was the enemy of her dynasty; while the nobility, headed by the king's silly and arrogant younger brother, the Duke of Orléans, disliked his interference with their privileges.

LOUVRE—ARCHIVES PHOTOGRAPHIQUES

The two French queens of Richelieu's era are shown above: left, Marie de Médicis, mother of Louis XIII, sketched by Rubens; and, right, her daughter-in-law, Anne of Austria, sculptured by Guillain. The statue once stood on the Pont au Change. The painting below, by Simon Vouet, shows Louis XIII in an allegorical meeting with France (left) and Navarre (right). Vouet painted many portraits of the king, who was one of his pupils, and was commissioned by Richelieu to do a painting for an altarpiece, The Presentation in the Temple.

MUSEE DE VERSAILLES; ABOVE: LOUVRE—ALINARI-VIOLLET

In spite of them all Richelieu achieved much in these early years. He put down once and for all the disorderly and dangerous dueling of the young nobility. He quelled a serious Protestant revolt and waged a successful war against England. He established French control over the strategically important Italian states of Savoy and Mantua, which had both previously been within the Spanish-Austrian orbit.

Notwithstanding these successes, when the king fell seriously ill in 1630, his wife and mother worked relentlessly on the emotions of the sick man to make him dismiss Richelieu. Their plots culminated in an outrageous family scene. The queen mother screamed abuse at the Cardinal, Richelieu fell on his knees at the king's feet, and Louis coldly commanded him to leave the room. Richelieu gave himself up for lost; he expected nothing but dismissal. In the agonized uncertainty of the next twenty-four hours he even contemplated fleeing the country. At court, too, it was assumed that the two queens and their friends had won the game. But that day, November 10, 1630, was to go down in French history as the "Day of Dupes," for the king dumbfounded them all by recalling the Cardinal to his side and confirming his unshaken confidence in him. From then on Richelieu's power was never again seriously challenged.

Louis XIII has sometimes been represented as a weak man who fell under the spell of Richelieu and could not escape. The king was not weak; he was a sensitive, sad, and unhappy man, often sick, often in pain. But he recognized the transcendent ability of his great minister and actively co-operated with him. Richelieu, for his part, described himself as "the most devoted subject and the most zealous servant that ever King had in this world." He was sincerely attached to Louis. Many passages in the memoranda and letters which they exchanged reveal the mutual respect and affection between these men, who saw themselves as working together for the glory of France. Richelieu knew that in serving the king he served the state. In the political conditions of a seventeenth-century monarchy there was no other way; that extravagant flattery of royalty usual among Richelieu's contemporaries, which sounds so false to modern ears was, on their lips, a necessary part of the vocabulary of statecraft.

The first goal for France, as Richelieu saw it, was to gain complete security against the encircling powers of Spain and Austria. It must be admitted that this gaining of security for France was often quite indistinguishable from aggression. Richelieu at first confined his military exploits to relatively small border conflicts, knowing that France's armies were weak, but he evolved a method of indirect attack on Spain and her allies which was remarkably successful.

At that time Central Europe was torn apart by the desperate conflict known as the Thirty Years' War (1618–1648). This was nominally a war between Roman Catholics and Protestants in Germany, in which the Hapsburg emperor in Austria, Ferdinand II, was the protector and leader of the Roman Catholic cause. With help from the Spanish branch of his dynasty, he had carried the Counter Reforma-

tion and the power of Spanish and Austrian arms into northern Germany almost to the shores of the Baltic, and into the heart of the Rhineland. Richelieu saw in this immense increase of Hapsburg power a real danger to France. He therefore undertook to subsidize the Protestant cause in Germany. It was with the help of French money that Gustavus Adolphus of Sweden invaded Germany and drove the Hapsburg armies out of the north. After the king of Sweden's death in battle, Richelieu continued to support the Swedish army and their German allies, although he did not openly declare war on Spain and her associated powers for another two and a half years. Thus, first by diplomacy, alliances, and a few well-planned military operations, and only later by open warfare, did Richelieu build up the position of France abroad. After his death, at the peace treaties which concluded the Thirty Years' War, France was enabled to confirm her power over the vital border region of Alsace, and to emerge as the strongest state in western Europe.

It was an aggressive and ambitious foreign policy. But it was no more so than that of Spain, and it is doubtful whether the encirclement of France and its stifling consequences could have been prevented by any other means. Richelieu himself believed it to be justified not only in the national interests of France but in those of Europe. Shortly before his death the dramatist Desmarets, who had once been Richelieu's secretary, wrote an allegorical play that presents the foreign policy of Richelieu in the form of a romance. Expensively mounted, and acted before a fashionable audience, the play showed the fair nymph Europa wooed by two lovers. The masterful Ibère (Spain) seeks to subdue her to his will. But the chivalrous Francion (France) asks only for the honor of protecting her and her numerous attendant nymphs, who represent the smaller nations. When Ibère attempts to seize the lady by force, Francion draws his sword "not out of ambition but out of necessity." Victorious, he treats his enemies with great generosity. Figures representing Savoy, Mantua, and Lorraine are forgiven for helping the wicked Ibère, although Lorraine proves ungrateful and later deserts to the enemy.

Neither Desmarets nor his play can be said to rank very high in the history of French dramatic literature. But the production of this allegorical drama is indicative of Richelieu's attitude toward the arts. It was not only that they could be exploited, as on this occasion, for propaganda purposes, but that a great and civilized nation *ought* to be great in literature, architecture, learning, and the arts. It was the duty of rulers and their ministers to spend generously on these things and to stimulate and encourage their practice.

It is a live issue today, when the advantages and drawbacks of state support for the arts are a recurrent subject of argument. In the France of Richelieu the advantages of the Cardinal's patronage outweighed the drawbacks. In literature, and especially in the theatre, his influence had the most immediate and productive results. He had always been interested in drama, but like most educated men of his time he had little use for the crude and lively street theatres beloved by the people. He wanted to see French dramatic writing brought into line with the best classical models, and the French theatre a place of dignified entertainment for intelligent men and women.

Actors and companies who sought to attract his attention exiled lewd jokes and horseplay from their performances, while playwrights turned to classical themes. Richelieu persuaded the king to authorize three permanent companies in Paris. He himself gave patronage and financial help to several leading actors and dramatists. He bestowed a pension on Mondory, the most famous actor-manager of the time, whose fine voice and distinguished manners set a new tone in the French theatre. He built, within the precincts of his great palace in Paris, a magnificent theatre of his own.

The queen, who attended the opening performance of this theatre, was served, presumably during the intermission, with a collation of candied fruits in golden dishes. The play presented to her was *Mirame*, a competent piece by the prolific and fashionable Desmarets, to which the Cardinal himself was said to have contributed, and the scenic effects were astonishingly ingenious. Ships were seen upon a moving sea, and the effects of sunset, moonrise, and dawn were realistically reproduced. This world première was evidently more a triumph of technical skill than of culture.

There were many better dramatists than Desmarets, whose popularity is hard to understand. There was Tristan L'Hermite; there was the elegant and witty Mairet, to whom Richelieu also gave a pension. Above all, there was Pierre Corneille. Corneille's *Le Cid,* with Mondory in the title role, took Paris by storm in 1637. Like many another play popular with the public, it ran afoul of the critics. The quarrel became so bitter that Richelieu intervened and commanded the newly founded Academy to judge the piece.

Corneille, like most writers of genius, was not bound by hard and fast aesthetic rules. The Academy in due course reported that *Le Cid* did not conform to the classical canons of playmaking and could not therefore be vindicated against its critics. Corneille was indignant, but Richelieu was determined to end the argument and forbade him to answer.

The Academy's condemnation and the Cardinal's support of it are not to his credit. But if he did not admire *Le Cid,* he admired much of Corneille's work, gave him considerable encouragement, and bestowed gifts on him and his family. Corneille in return forgot his rancor over *Le Cid* and dedicated to the Cardinal one of his finest plays, the classical tragedy *Horace*.

The Academy, which began its official career rather inauspiciously by condemning the work of France's greatest contemporary dramatist, was the beloved child of Richelieu's conception. It was an association of literary men whose task was to improve the language and encourage the literature of France. To be a member of the Academy was, and has remained, one of the most coveted distinctions in the whole world of literature. The work that was done to stabilize French grammar and purify the vocabulary was of immense

STAATLICHE MUSEEN, BERLIN

Richelieu's interest in the arts, particularly in the work of French artists, led to a flurry of art patronage. George de La Tour, whose work is typified by his St. Sebastian Tended by St. Irene *(left), was patronized first by the Duke of Lorraine and later by the king, whom he pleased so much that the only painting in the royal bedchamber was a La Tour.*

Richelieu admired the work of Nicolas Poussin, a French painter who lived in Rome, and commissioned him to paint two large canvases for the Château Richelieu (one of these was The Triumph of Bacchus, *shown opposite). At the Cardinal's behest, Poussin spent two years in Paris, but later returned to Rome where he found life more peaceful.*

value. Thus was established that clear and flexible speech which replaced Latin as the international language of diplomacy and became the vehicle of the most influential modern literature in the world.

Richelieu's attitude toward the Academy was affectionate, even patriarchal. Just as he liked to have a theatre under his own roof, so he also had thought of making the Academy into a kind of residential college, with all its members living in a square of beautiful houses adjoining his palace. This particular scheme did not, however, come to anything.

He loved architecture and the decorative arts no less than literature. He commissioned the architect Jacques Lemercier to build the great domed church of the Sorbonne, the first church in Paris to be constructed on an Italian baroque plan. Richelieu also built three palaces for himself—his country house at Rueil, which was chiefly remarkable for the fountains and ornaments of its lovely garden, his Palais Cardinal in Paris, and a stupendous mansion at Richelieu for his retirement. Little survives of the Palais Cardinal, which has often been rebuilt and is known to us today as the Palais Royal. But it is possible to gain some idea of its splendor from the descriptions that survive. The library was famous throughout France. Adorned with paintings by Philippe de Champaigne and Simon Vouet and with rows of busts in the Roman style, many of them antique, it contained a superb collection of printed books and rare manuscripts. It was especially rich in Oriental manuscripts—more than a hundred of them bought for the Cardinal by the French ambassador in Constantinople. All were cased or bound in red morocco with the Cardinal's arms embossed in gold. Many of these treasures are still to be seen in the Bibliothèque Nationale. In Richelieu's lifetime they could be consulted by scholars, for at certain hours of the day his library was open to them. We hear of chapel furniture made of gold and set with rubies and diamonds; of Richelieu's own bust in pure gold; of richly frescoed ceilings; and of walls hung with tapestries of silk made in the Parisian factory whose foundation he had encouraged.

NELSON GALLERY-ATKINS MUSEUM (NELSON FUND)

But the grandeurs of the Palais Cardinal were eclipsed by those of his dream palace at Richelieu. Here in the little village of his childhood, with its modest château, he set out to create a new and noble city. The centerpiece was his own palace. Built by Lemercier, it was of majestic proportions. The façade was enriched with an array of statues, two of them by Michelangelo (these are now in the Louvre). Within, displayed among the rich furnishings, hangings, and tapestries, were the finest pictures in his collection—the lovely *Parnassus* by Andrea Mantegna,* looted for him from Mantua, along with other notable works of art. There were works by Dürer and Perugino, Caravaggio, Titian and Leonardo da Vinci, as well as by the greatest of Richelieu's French contemporaries, Poussin and Claude Lorrain. Outside this treasure house the new town was laid out in spacious avenues of dignified houses. Its purpose was, however, uncertain. It did not seem suitable for industry or commerce. Perhaps Richelieu intended to create a new university there. Whatever his plans, he did not live to complete them. It is possible that he never even saw the palace he had built—certainly he never lived there. After his death it remained for many years a showplace for travelers. But it was a melancholy sight, for no one breathed the breath of life into the new town of Richelieu. There was not enough water. No one would live there. The building of it is the one inexplicable act of folly in the Cardinal's career.

But in general his building policy followed a clear plan. Great palaces, impressive public buildings, wide streets, fine houses—all these things would impress upon all who saw them the greatness of France. Above all, the king and his ministers must live in a style that clearly indicated the power and splendor of the monarchy. By his example, Richelieu laid down the policy that came to its apogee under Louis XIV at Versailles.

He would have liked to make Paris the aesthetic center of Europe, but the position was still in his time held by Rome. The two greatest French painters of the age, Poussin

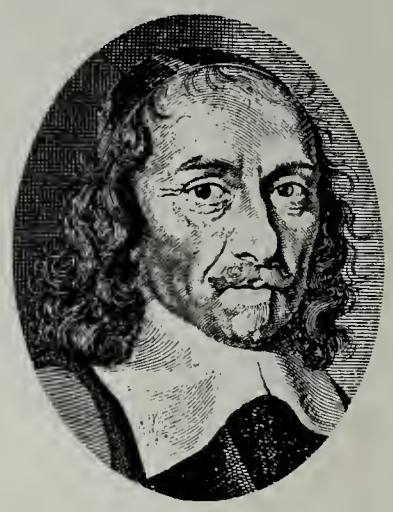
* Reproduced in HORIZON, Spring, 1964, page 79.

and Claude, had long been settled there, and Richelieu's attempts to bring them home met with little success. Poussin did come for a time, but was irritated by plans for redecorating the Louvre which did not give him enough scope. He soon decided that independence in Rome was preferable to the gilded cage of court patronage in France. His visit, however, put him in touch with new French patrons: if his pictures were not painted in France, many of them were now bought by French collectors. Such a one is the beautiful *Holy Family on the Steps* now in Washington, D.C.

The two painters who dominated Paris in the time of Richelieu were the Flemish-born Philippe de Champaigne and the Frenchman Simon Vouet. The clear, astringent manner of Champaigne is in complete contrast to the rotund and flowing compositions of Vouet, but both were fearless colorists and fine decorative painters. Richelieu employed them to decorate the walls and ceilings of his great houses. Most of these works have perished, but the portraits of him by Philippe de Champaigne are well known, and a *Presentation in the Temple* by Vouet that currently hangs in the Louvre was one of the paintings he commissioned. Whatever Vouet's intrinsic merit as a painter—and at present there is a revival of interest in his work—he is significant in the history of art because his studio in Paris became a center for young artists that competed with Italy and re-created a school of painting in France.

Two major French artists of the epoch, the engraver Jacques Callot and the painter Georges de La Tour, both came from Lorraine, at that time a province independent under its duke. Richelieu employed Callot in the first years of his rule, but when the Duke of Lorraine persistently sided with the enemies of France, Callot as his loyal subject refused further commissions from the Cardinal. The position of La Tour is harder to establish. His pictures of peasant subjects, which are today so highly valued, would hardly seem of a kind to attract the Cardinal, but we know he had the title of "*peintre du roi,*" which indicates that he was within the circle of court patronage.

What Richelieu did for the greatness and culture of France is evident. But what of the comfort and happiness of the common people? He was, like most rulers of his time, indifferent to the aspirations of the poor, indeed hostile to them. Poor and humble people were to be governed, not to have any voice in government themselves. He did not show much concern for the sufferings that his war policy caused to the unfortunate peasants of the frontier provinces. Callot's famous set of etchings *Les Misères de la Guerre* supply graphic evidence of what befell the peasant population in time of war. Taxes were high, and when harvests were bad, the poor suffered atrociously. Occasionally they broke into revolt. Richelieu suppressed such revolts with an iron hand. Yet it can perhaps be accounted to his credit that he gave encouragement and support to that great Frenchman and great Christian, Saint Vincent de Paul, whose work among the poor, the sick, and the outcast did something to alleviate the horrors of the age.



The Académie Française, instituted by Richelieu in 1635, was composed of a group of scholars who had been meeting informally at private houses to discuss grammar and style. A typical session is shown in this contemporary engraving (at top). Pierre Corneille (near right) was one of a group of five playwrights who were under the patronage of the Cardinal. His famous tragedy, Le Cid, *which caused consternation because it violated the classic rules of unity, and was condemned by the Academy, was produced in 1637. Richelieu was Chancellor of the Sorbonne and used his own money to reconstruct and expand it. The 1642 engraving (far right) shows him at the Sorbonne in a ceremony of rededication. The church behind him still stands and contains his tomb. The Cardinal was not only a patron of the theatre, but also wrote plays himself. The scene at the bottom shows the king, the queen, and the Cardinal watching* Mirame*—by Desmarets assisted by His Eminence—on the evening of January 14, 1641. It was admired more for its elaborate scenery than for its literary merit.*

BIBLIOTHEQUE NATIONALE—GIRAUDON

BIBLIOTHEQUE NATIONALE—SERVICE PHOTOGRAPHIQUE; OPPOSITE: N.Y. PUB. LIB.

MUSEE DES ARTS DECORATIFS

Richelieu would himself have argued that by building up the power of France abroad and her stability within he was creating conditions which would bring greater prosperity to all. He encouraged manufacture, commerce, and overseas trade. As France dominated Europe and gained more markets, as she exported more grain and wine, more silk and glass and tapestry, so inevitably the prosperity of her peasants and her craftsmen must increase. Such long-term arguments would sound hollow indeed to peasants whose lands had been wasted by war, or to homeless refugees in the streets of Paris. Yet the mounting prosperity of France was noticed by all travelers, and was reflected quickly enough in the greater ease and comfort of middle-class life. More gradually, it also affected the conditions of the poor.

The personality of Richelieu will always remain something of an enigma. We must judge him by his achievements. In all the volumes of his correspondence it is hard to find the human feeling behind the multitudinous activities of that extraordinary mind.

Though he lived in sumptuous luxury, there was in his nature something austere and dedicated. In later years, prostrated with pain, exhausted by sleeplessness and fever, he would never lay down the immense task of government. Was this devouring lust for power, or devotion to duty—or both? He would sometimes say that in politics a priest, a churchman, was more reliable than any other servant of the state; being celibate, a priest had no children and therefore no human thing to share the devotion that he owed the state. Furthermore, the priestly training in self-discipline inured a man to making great sacrifices in the pursuit of his vocation. Richelieu certainly gave proof of this himself. Perhaps because of this austere quality, this element of unworldliness in a man so worldly, he still holds the historian and the student at a distance. Perhaps it was this element which, in the minds of the vulgar, made him seem an alien and not quite human figure.

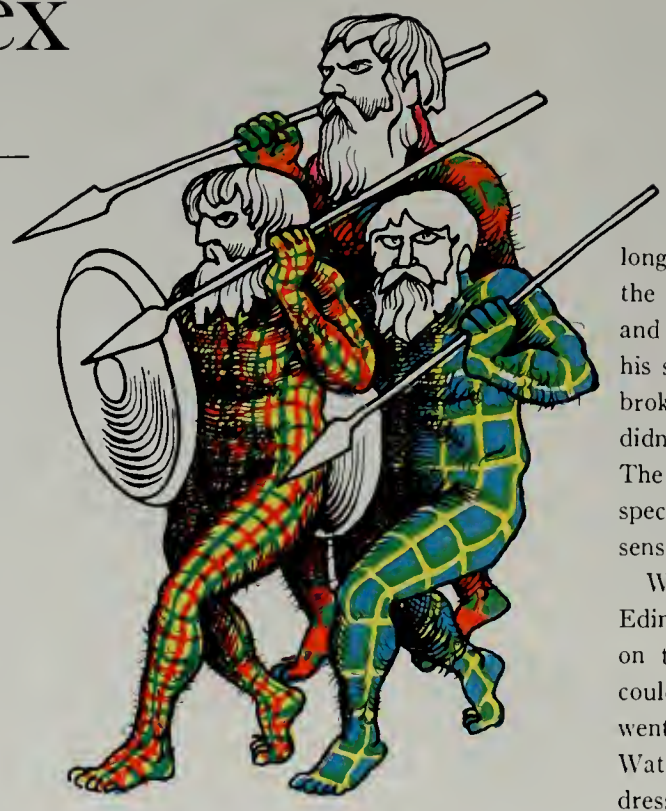
Contemporaries remembered and feared him for his ruthless and successful onslaught on Spain and for his consolidation of the French state, but the political power that he built for France was ephemeral. His greater glory was that he laid the foundations of her intellectual and aesthetic leadership. It is right that he should have chosen for his last resting place the University of Paris, the great church of the Sorbonne that Lemercier built. There, on the Left Bank, in the midst of talkative, cosmopolitan, intellectual Paris, he lies in marble, his sightless eyes turned toward Heaven and his hand on his heart.

C. V. Wedgwood has written many historical studies of the seventeenth century and has written often for HORIZON.

For further reading: Europe in the Seventeenth Century *by David Ogg (Collier Books paperback, 1962);* The Seventeenth Century in France *by Jacques Boulenger (Capricorn Books paperback, 1963); and Miss Wedgwood's* Richelieu and the French Monarchy *(Collier Books paperback, 1962).*

Kilt Complex

Or how a Scotsman really feels about the kilt, which—it says here—has a short and checkered history



By CLIFFORD HANLEY

The tartan is the great Scottish game, and it is a game in which anybody can join. It's funny to think that a length of woolen cloth with colored squares on it can stir pride and passion in the heart of a nation, but it does; and of course it's a splendid lark, and the envy of all lesser peoples, like the Chinese, who are roused only by crude stimuli such as the rice harvest and raw-steel production.

Tartan is second only to whisky as an exportable element in Scottish culture. We have smothered chic women all over the world in yards of chromatic cloth, and lynx-eyed young executives in California conceal checked underpants beneath their smooth exteriors. True, a lot of this yardage is made in Austria or Hong Kong, but who cares, it was our *idea*.

We also smile indulgent smiles at the strange and untraditional patterns adopted by well-meaning foreigners. These are not the true tartan, which adheres rigidly to certain designs laid down by God. They are what we genuine Scots call bum-bee tartans, from the fact that the bumblebee has for centuries been trying to evolve into a yellow-and-black Mackenzie plaid but like other foreigners has mixed up the warp with the woof.

We feel so strongly about tartan and its uses that, a few years ago, the Scottish nation finally rose in spluttering rage and abolished the spectacle of little girls competing in Highland dances disguised as men, in velvet jackets, masculine kilts, and tartan socks. These monsters increased their guilt by jiggling up and down with all their past medals clinking on their heaving little bosoms, and honest Highlandmen fairly frothed at the sight. I loved it.

The reason for all this pious anger was that the kilt is an exclusively male outfit, divinely ordained since pre-Roman times. Some enthusiasts even believe that when the Roman legions reported those ancient Picts shambling about the Highlands dressed in nothing but paint, the paint was actually laid on in vertical and horizontal stripes, denoting the clan affiliation of the gentleman inside it.

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It is quite true that tartan has a history, and it goes back farther than, say, the inverted gas mantle. It was capable of putting the fear of death in English governments in the eighteenth century, for instance.

In 1746, Charles Edward Stuart, Bonnie Prince Charlie, the Young Pretender, led his gallant Highlanders into the ludicrous blood bath of Culloden, where English military discipline, the rifle, and the bayonet vanquished the broadsword, and the old clan system was smashed to smithereens. But it had been a close thing for a while, and the government in London remained in a blind panic.

The Highlanders had been wearing their outlandish tartan suits, and since the Highlanders were weird beasts anyway, in the eyes of authority, the tartan was taken to be a very big juju, heap strong totem, like Sioux war bonnets. The government realized it could shear the Scotsman of his courage by abolishing the stuff altogether. Later that year a law was passed forbidding the wearing of multicolored cloths in the Highlands. Penalty for the first offense was six months in jail; for a second offense, seven years' transportation to the Colonies. A few rash Highlanders were actually nabbed for this fiendish crime.

But peace finally filtered into the Highlands, and the law was repealed in 1782 because by this time Scotchness was suddenly becoming fashionable again. Before long, Sir Walter Scott had started to glorify the old legends of Rob Roy MacGregor and suchlike, and when George IV paid his state visit to Edinburgh in 1822, tartan broke out like measles everywhere. If you didn't have tartan, boy, you were nothing. The king himself wore a kilt, and a braw spectacle he made, if you had a macabre sense of humor.

Walter Scott, who stage-managed this Edinburgh frenzy, was completely hipped on the tartan. He had seen the effect it could have on innocent strangers when he went to Paris during the occupation after Waterloo, and noted that "the singular dress of our Highlanders makes them particular objects of attention to the French."

The emperor of Russia was taken with the lads, too. At his particular request, a sergeant, a corporal, and a private soldier of a Highland regiment paraded before him secretly at the Elysée Palace, and the emperor, who had heard strange tales, achieved an ambition which is still nursed by nosy Parkers all over the world today. He lifted Sergeant Thomas Campbell's kilt to see if it was true that there was nothing below.

By that time, of course, the Great Kilt Nonsense was well established. The kilt was the kilt pretty much as we see it today: an enormous length of tartan pleated across the back, with the pleats stitched together at the top, and with the unpleated ends laid one above the other across the front. We go mad for this today, if we have the courage, or if we have conveniently emigrated to some place where we can impress the natives. The kilt is a fine swaggering garment, and, as far as function goes, it is at least as rational as those newfangled trouser things.

I bought my first kilt when I was fifteen. I had a rough time defending it against my purist acquaintances because it was a Gordon, and there have never been any Gordons in my lineage. The explanation is quite simple: the Gordon was the only kilt I could get for three quid.

If I had been rich, I would have ordered a MacLean by right of my maternal grandmother. No man is entitled to wear a tar-

tan except the family tartan he has inherited. The tartan shops have charts and books with all the official patterns listed, and all the thousands of names that can claim to be branches or septs or chums of the great tartan clans. It is a splendid piece of hokum.

In that battle of Culloden the Highlanders wore any tartan that came up their backs. They had never heard of the idea of an official clan design, and if they had, they would have dodged it because in those days advertising your name could easily get you a dirk between the ribs. The old clansmen recognized their friends in battle by wearing cockades or bits of feather or familiar expressions.

The kilt they wore was not a badge of office; it was a traveling tent incorporating instant camouflage. The best pattern was one that would merge into the scenery. The garment itself was a length of woolen cloth, two yards by six yards, which I admit sounds ridiculous but is no dafter than a sari. At night the clansman wrapped himself in it and slept. In the morning he laid a belt on the ground and then carefully pleated the great lump of stuff on top of the belt. And then—yes, I know it sounds like a music-hall act, but it was strictly business—he lay down on top of the lot, brought the ends of the belt up, and buckled it round his waist. He was now enclosed in a tube of cloth, reaching from his knees to right over his head.

He then stood up, breathing heavily, and taking the upper end of his cocoon in both hands, he did the best he could with it, possibly with a pin or two or the odd knot. He was now formidably insulated against cold and wet and could run like a rabbit. After the thing was banned in 1746, years passed and the Highlander forgot the notion. It took Walter Scott and the bon ton of Edinburgh to put the kilt back in the hit parade.

And now we come to the two brothers of Albanie, and one of the nicest confidence tricks of modern times. The brothers went by various names, and in fact, they changed their names every few years, but

BLAKE HAMPTON

they are best remembered as Sobieski Stuart (John and Charles). They were a handsome pair, of great charm and artistic sensibility, and wherever they had come from, they landed in Edinburgh at the right historical moment. The tartan frenzy was still rollicking along, after all that excitement with George IV and that prying Russian emperor, and the boys gave it out that their father had told them that they were grandsons of Bonnie Prince Charlie himself. Who knows?

Both brothers were slick hands at wood carving and other high-toned pursuits. They spent a lot of their time as house guests, and one of their hostesses, who liked them but was no fool, once noticed that John had taken a great fancy to a tartan bedspread in the house. Any minute now he'll be wearing it, she told a friend. Almost instantly he turned up wearing it. Not only that, he had created a history for it.

I like to think of the glorious turmoil in his brain at that moment. Wood carving was all very well, but he had suddenly found a place in history because he was going to write history with himself in the middle of it. Pretty soon he was able to announce that he was in possession of a Latin manuscript setting forth the forgotten and the only true patterns of the clan tartans. Edinburgh started coming to the boil. Walter Scott, it is true, was very leery of the whole story. He wanted to have a look at the original manuscript, whose Latin sounded somewhat dubious at second hand. John Sobieski Stuart could not bring himself to endanger the precious paper by parting with it, but he now claimed he had collated it against another manuscript "in the Augustine Monastery in Cadiz."

And in 1842 the boys published their *Vestiarium Scoticum*, settling the clan tartans for good. It was published by William Tait of Edinburgh, and it was a rave. Everybody, of course, wanted to be in on the act. Families who hadn't even had a pair of knees now discovered they had a tartan, all to themselves.

"It is well known," said Sir John Sinclair in 1830, "that the filibeg [short kilt] was invented by an Englishman in Lochaber about sixty years ago." Who wants kill-joys like Sinclair going about robbing us of our heritage? Such moaners did not have a chance against the Sobieski Stuarts. Heavens above, John Sobieski Stuart was the *Comte d'Albanie*. He said so himself.

And so we Scots have the kilt, and what's more, we have our *own* kilt, and if we are MacTooshers, no MacPoosher can insult us by flaunting our tartan above his traitorous knees. And the kilt, designed by Providence, changeth not, it developeth not, and it is nice. Trousers get narrower, jackets get shorter, shirts get drippier, and coats adapt themselves to the swinging rhythm of time. But the kilt is immutable and we love it and we will defend it to the end. We won't wear it, but we will defend it.

As one of the truest of true native sons, Clifford Hanley will probably be forgiven, even by the Scots, for his irreverence toward tartans. He was born in Glasgow and still lives there. A prolific writer, he has been turning out newspaper articles, books, plays, criticism, humor, TV scripts, and song lyrics since he was seventeen years old. In fact, he is even the author of Scotland's unofficial national anthem, "Scotland the Brave." This perhaps-not-entirely-definitive history of tartans will appear in his new book, A Skinful of Scotch, *to be published by Houghton Mifflin Company in September.*

Life and Death on the Funks

One generation passeth away, and another generation cometh: but the earth abideth forever

The first view of Funk Island is a forbidding one; it is a bleak chunk of granite set in the middle of an empty sea. From a distance it looks like a huge, half-sunken ship, mastless and derelict. It is on the way to nowhere. It has scarcely any vegetation and no fresh water. Yet this desolate rock is one of the most densely populated areas in the world. More than a million creatures crowd its dozen or so acres every spring and summer.

I have seen many of the earth's major phenomena, man made and natural—catacombs, pyramids, great falls, deserts—but none has left me with such a pang of memory, sharp and disturbing, as Funk Island. It is an ultimate and it evokes extreme emotions.

The island lies forty miles off the northeast coast of Newfoundland and is set squarely in the middle of the Labrador Current. It is less than thirty feet high, is about two thousand feet long, and is composed of a solid piece of porphyritic granite. It is the summer breeding territory of more than one million murres (rhymes with furs), which are black and white duck-sized sea birds of the auk family. The island was once the American headquarters of a close relative of the murre, the flightless great auk. The great auk, almost as big as a goose, was made extinct on Funk Island about a hundred and twenty years ago. Today, the island is both a breeding colony and a burial ground: you walk among murres but your feet crunch the bones of the great auk.

To ornithologists, of course, Funk Island is fabled, but it is the fishermen who have the most evocative feeling for it. "The most dangerous place in all the world," is how one man described it, because for hundreds of square miles around the island rise barely submerged pinnacles of rock. "Cathedrals in the sea" they were termed by Arthur Sturge, a fisherman who has never heard of Debussy. Many fishermen have had the bottoms of their boats torn out on those "cathedrals" and have died within the sound of Funk Island's surf.

The name itself, Funk, suggests terror and disaster, and its derivation is mysterious even to the nearby coastal people. One ninety-year-old fisherman told me he seemed to recall an old English word, "funk," which meant terrible. He was probably right. In the seventeenth century "funk" meant smoke or stench and was perhaps derived from an old Flemish word, "fonck," which meant perturbation. The Newfoundlanders have, with instinctive drama, pluralized the name; the island is known simply as "the Funks." Smoking, stinking, fearful—singular or plural—it is well named.

Funk Island is a study in absolutes, and it was this that led me to it. Perhaps it is a Scottish trait to be fascinated by places of the apocalypse; my forebears were Scottish and fought at

By FRANKLIN RUSSELL

Culloden, and when I went to Culloden two hundred years after the battle, I was overwhelmed by those long sinister mounds of the mass burial of the clans. Years after the Culloden visit, my imagination was seized by reading, in an ornithological book, of another place of massacre and burial on a huge scale. In the book, called *The Murres*, a Newfoundland biologist, Leslie M. Tuck, stated: "... but puffins [a type of auk] almost certainly did not nest on Funk Island until soil built up on the decomposed remnants of the exterminated great auk." The idea of a vast midden of slain creatures providing a refuge for new generations of sea birds was both appalling and fascinating. I became determined to visit Funk Island.

However, getting to the island is difficult and often impossible. It is feasible to fly to Gander, an international airport lost in the Newfoundland wilderness. Then it is a fifty-dollar cab ride and a two-hundred-dollar boat charter to the island, if a boat is available and if the weather is calm. It is possible to ferry a car to Newfoundland and drive across it. But that is a two-thousand-mile trip from New York and there is still no guarantee of reaching Funk Island. However, once the journey is begun, the traveler may feel unable to stop, as though the island itself were drawing him on.

When I arrived at Valleyfield, the nearest village with ocean-going boats, there was an aura of Funk Island all around me. A gas-station attendant said, "You be agoin' to the Funks, I believe." A man in a store said, "I understand, sir, you're goin' to the Funks. A terrible hard place, I hear." When I ate in a tiny restaurant, waitresses giggled behind a burlap curtain and I heard them whisper, "He goin' to the Funks." Marvin Barnes, the chief of an experimental fish plant, was envious: "I've heard so much about the Funks," he said, "I wish I could *see* them."

I talked to a seventy-five-year-old fisherman, Benjamin Sturge, who has fished at the Funks for nearly seventy years, and his memories were vivid. "Oh yes, my dear man," he said, "the Funks is a sight you'll not forget." He talked for two hours, about how birds "come down off the island like armies marching" and walk straight into the sea, how "black winds" blew at night, and how the island moaned and howled like a beast in pain. He recalled the "olden times" when schooner crews came to the island armed with big paddles, which they smashed down on the heads of the massed birds and killed up to twenty thousand of them a day; he recalled whale carcasses moored at the island while white-winged schooners flew away in pursuit of more prey.

"Let me tell you this, my son," he concluded, "the Funks is a marvelous hard place. A man could die there."

A man could die waiting to get there, I soon found out. I arranged to charter a long-liner, the *Lydia and Mary*, and spent hours talking to its owners, Skipper Jacob Sturge and his five sons, Arthur, Perce, Avalon, Willie, and Cyril. Days passed. "You may never get to reach the Funks," said Jacob Sturge. "Some years, you couldn't get near the island because of steady breezes. Once, some fellers from the furrin parts came from away across the ocean. And they never got there!"

To be so close to Funk Island, only to find it receding from me, was tantalizing. As I waited, I learned from the Sturges why the island is so elusive. It takes six hours of hard steaming against the diagonal force of the Labrador Current to reach it. Navigation must be impeccable. But the biggest hazard of all is that few days in the short Newfoundland summer are calm enough to allow a landing on the steep-walled island.

Getting to Funk Island, therefore, becomes an essential part of *seeing* it, a condition that sharpens the vision and imagination and gives a keen edge of apprehension to the venture. When I heard the mutter of Diesel engines at two o'clock one morning, I leaped out of bed. The night was icily still and I knew we would be sailing. Within minutes, shivering, I was aboard the *Lydia and Mary* and we were roaring out to sea.

Funk Island stands at the threshold of the Arctic; you can feel this the moment you enter the Labrador Current. Arthur Sturge, at the wheel, nodded approvingly at the four-thirty sunrise, a liquid rush of fire running along the sea. "Going to be a good day," he said. Standing on the horizon were tall white monuments: I counted a score of icebergs. Between them rose gray pillars which looked substantial but soon faded and disappeared. "Whales," said Arthur. Then we were surrounded by more than a thousand shearwaters, cutting back and forth across our bows with easy grace. (They are related to the albatross and, for them, this was winter. They had probably bred on Tristan da Cunha the previous December and January.) As we came within an hour of the Funks, speeding murres and puffins swept along beside us, all headed due north; the murres thickened and churned away from our bows by the score, then by the hundred, then, in one large flock, by the thousands. The air moved with hurrying birds, and I had the feeling of a traveler leaving the country and entering a metropolis.

When the island came into view, it looked like a huge, partially submerged aircraft carrier loaded with tiny black planes. The men on the *Lydia and Mary* were tense, unlashing booms, throwing oars into the dory, barking orders at each other. We slid around the island, myself transfixed by the sight of the sky moving, like a curtain riffling in the wind, with thousands of birds. "Us'll soon have ye ashore," shouted Jacob Sturge above the sound of his engines.

Even in calm weather there is only one possible landing place on Funk Island. My first view of it was over Arthur's shoulder as he strained at his oars against the Labrador swell. Behind him, the island was a blank wall of rock, about thirty feet high and topped by a fast-moving frieze of murres.

On the long-liner it had seemed to be a calm day; in the dory the sea was terrifying. We came up to the rock wall and in one surge rose eight feet up its side, poised at the top for one wobbling moment, then fell away in a smooth rush of motion. "Get up front with Willie," said Arthur. As I stumbled forward, Willie jumped to the rocks and clung there. Then, as I teetered in the high and pointed bow of the dory, I saw that the rock wall was guttered with a series of ridges. These were handholds that had been used by Indians, Eskimos, Jacques Cartier's sailors, and by

Portuguese, Dutch, English, Canadians, Americans, Italians, Basques, Germans, and countless others who had come to plunder this island of eggs and auks. The boat swept upward and I jumped, slipped, then found the handholds; the dory was immediately a score of feet away in the grip of the withdrawing wave.

Willie had disappeared over the crest while I was absorbed in finding more hand and foot holds in rock slippery with algae and bird excrement. When I got to the top, Funk Island spread out in a rush of activity before me. Curtains of kittiwakes—small northern gulls—were boiling up with the seven o'clock sun behind them, anxiously protesting our approach to their colony. Beyond the kittiwakes, I was half aware, were dark masses of murres, but I could not immediately *see* them, because my senses at that point were totally occupied with the sound of Funk Island.

Leslie Tuck has said, in his book, that the sound of a murre colony is like "the thunder of an immense waterfall." To me it is an orchestral sound—rich, sensuous, almost hypnotic. As I clawed my way up a rocky ridge behind Willie, the sound grew immense and we came in sight of a concourse of birds, perhaps two hundred thousand of them, staining the rock black and white. Now the orchestral analogy became even truer, because I could hear *layers* of sound, as though of different instruments. The birds on the ground cried "ehr-ehr-ehr" in what seemed like an endless crescendo; the voices of the flying birds—and there were thousands upon thousands of them in the air—swelled and faded hauntingly as they cried out in flight; buried in this amalgam of voices were the piping screams of the young murres, sounds so piercing that they hurt the ear.

As we moved round the periphery of the murre concourse, I was partly aware of thousands of birds covering distant ridges of rock, but it was the sound that continued to absorb me. A sibilant undertone was now audible, the sound of hundreds of thousands of wings beating. Some of this came from the birds overhead; their wings hissed and whistled eerily. Some of it came from the murres on the ground, many of whom were standing erect and rapidly beating the air with their wings. Then another sound emerged—the sharp slap of wings from birds flying so thickly they were colliding in mid-air. Almost lost in the uproar were the thin tones of herring gulls and, finally, the wistful cries of kittiwakes, hovering highest and watching our retreat from their colony.

While I walked, I tried to think. As a writer I had to observe, remember, make order from chaos, relate reality and imagination. But I felt suffocated, numbed. I had been on the island for nearly an hour and had truly taken account of only one thing—the sound. Willie's voice came to me from a great distance: "It's a terrible place, isn't it?" I looked at him and realized, with surprise, that I was seeing him for the first time since we had come upon the murres. I looked around me, and, also for the first time, was able to see the birds themselves. They stood wing to wing, so thickly clustered that the rock was obscured. Each bird stood fast on her tiny, bare, nesting area, which contained either a chick or an egg. Every creature was in constant motion, head wavering and darting, wings upraised and beating. Birds landed continuously and smashed their wings among the sea of upraised heads, just as other birds took off constantly and left behind a wake of reeling birds before they became airborne.

As the murres reacted to our continued presence on the island, the air was filling with flying birds. I tried to estimate the number in flight but gave up with a rough figure of two hundred thousand; for all I could judge, there might be half a million of them aloft. They circled the island endlessly, like fighter-bombers making a series of strafing runs on a target. They flew the full north-south length of the island (two thousand feet) and turned widely left or right out to sea before sweeping back to make another run. They came in waves, and after a while produced a hallucinating effect; when I looked at their approaching thousands, the sky flickered and jerked with motion and continued to do so even when I looked at clear sky.

I became aware of a new sensation. The murre is not an aggressive bird, but every one of these creatures was flying at *me*. Some changed course so they could cut low over my head. The endless repetition, the swish-swish-swish of hurtling bodies, some passing within four feet of my head, became quite sinister. Arthur Sturge had said that "just the sight of them birds in the air makes some people go quite queer in the head."

By this time, I knew I was passing from one stage of awareness to another. I would not know Funk Island until all my senses were liberated. However, I was hardly prepared for the next assault on them. There was a firm breeze blowing and it brought to us the miasma of the murres. The smell was choking, acidic, burning, yet till this moment I had not noticed it. In the hollows the smell seemed to thicken the air like poison gas; the fishermen had told me the smell was "poisonous," and shortly before dawn that morning, Jacob Sturge had told how one fisherman had once tried to run through the thickest concentration of murres and was almost gassed unconscious. Fanciful stuff, but the smell of Funk Island is vile, the true smell of death. It is more pervasive than that of any battlefield because no battlefield could produce such a concentration of the living, the dying, the dead, and the decaying.

It is the combined smell of dead bodies that, since there are no scavengers on Funk Island, lie everywhere; of rotten eggs; of about one hundred and fifty tons of excrement which is spilled onto the island daily; and of quantities of small fish vomited up by the murres and left to rot in the sun. The smell is perhaps indescribable in ordinary words. It is effort enough to imagine a million creatures packed into such a small area.

We had walked back and forth across the northern end of the island, and were now moving along the western shore, a series of rolling, humpbacked lines of rock sweeping down into the sea. As we walked, I was struck by yet another extension of my awareness: I felt the chaos of the island. The noise, the numbers, the smell, the struggling homuncular forms, all created an overpowering sense of imminent disaster. This impression was to become strongest at the southern end of the island where the rock is split into a ravine. For nearly three hundred years this has been

OVERLEAF: *This is how Funk Island looks when the murres are in residence*

called Indian Gulch. The native Newfoundland Indians, the Beothucks, camped there on egg-collecting expeditions before they, like the great auk, were exterminated.

The gulch contains a small pond and into this pours a ceaseless flow of excrement, coughed-up fish, dead bodies, putrid eggs, and live nestlings. By mid-summer the water is pea green, seeming about to ferment. The murres are not distressed by this evil mixture, and when we appeared on the cliffs that overlook the gulch, hundreds of them were afloat on it. As Willie walked along the edge of the ravine, a panic overtook the birds. The pond was riven into green foam as all the birds tried to take off simultaneously. They crashed on top of one another and piled into a squirming heap at the bottom of a steep bank. This triggered another panic among birds standing precariously along the cliffs, and they fled in a mass. Eggs and young murres spilled down the rock and fell into the water.

I stood transfixed. But on Funk Island, I dimly realized, nothing matters. Death is everywhere. Life is nothing. Chaos is order. The great deep-throated roar of the murres rises to the heedless sky, and the human observer, appalled by what he has seen, stumbles on.

With the sight, sound, and smell of Funk Island all around me, I now became aware of the young murres. They were everywhere, and they watched me with bright eyes. Many of them huddled under the breasts of their mothers, but others were collected in groups of a dozen, or fifty, or more. How most of the young murres keep contact with their mothers must remain a supreme mystery of biology.

There is only one word to describe the youngsters, and it is not in any dictionary. They are "murrelings," tiny, rotund, dusky balls of fluff with the most piercing voices ever given a young bird. They cry incessantly, and well they might because they are expendable. Their dead bodies lie in drifts, mixed indiscriminately with smashed and rotten eggs. I saw murrelings in the foam of breaking waves, screaming at the tops of their voices, I saw them drowned in putrescent puddles, or struggling feebly in patches of viscous excrement.

This prodigal expenditure of life suggested to me that I had not yet seen the final horror. During the last twenty years or so gannets have been colonizing Funk Island, and their colonies are dotted among the masses of murres. The gannets are pure white and twice the size of the murres, and are dominant. They usually occupy the highest points of ground, blackly surrounded by the murres.

As we watched, a gannet reached down and seized a nearby murreling and began swallowing it. The murreling screamed as it was hoisted into the air; it screamed as it was being swallowed. The gannet's neck writhed and its beak gaped as it swallowed, and all the time the choked screams kept coming up out of its throat. Gradually they became fainter and stopped. "Horrible," said Willie. "I never gets used to it. I think I'll go and sit behind that rock."

It was now after noon and a brilliantly clear day. The temperature had risen more than forty degrees since dawn. I was at the western end of the island again and near a truly remarkable phenomenon. Over an area of two acres the island's granite is broken into big slabs, like chunks of a cement highway smashed up by a bulldozer. Between the scattered chunks are patches of green turf, the only growth anywhere on the island. Here, generations of flightless great auks clustered and bred. Their guano, with its powerful phosphoric and uric acids, worked into the granite and softened and weakened it. Rain water entered the granite and froze and split the rock into heavy chunks.

Meanwhile, as the rock split up, the combined debris of the great-auk occupation began to create the beginnings of soil. This was hastened, perhaps after several thousand years, by the arrival of white humans who began killing the auks—mainly for their feathers—and often left their bodies to rot after denuding them. Hundreds of thousands of the big birds were killed each year during these massacres, most of which took place in the eighteenth century. Simultaneously, the gulls brought seeds to the island; the hardiest plants established themselves. The earth deepened. Eventually puffins and petrels burrowed in it and found refuge among the remains of millions of defunct great auks.

I walked across this midden, this ornithological ruin, and my feet trod on great-auk bones still there after more than a hundred years. I picked up a large white bone, a great auk's leg, and recalled having read that the early auk hunters probably caught the birds, smashed both their legs, and left them to lie helpless while they went on killing. The bone I held in my hand was broken.

By this time I was thoroughly exhausted and I turned toward the northern shore where we had arranged to meet the dory from the *Lydia and Mary*. Down these rock slopes, within twenty days, the murres would escort en masse their still flightless youngsters. These were "the marching armies walking into the sea" that the fishermen had talked about. A few days of such mass exodus and the island would be deserted. I imagined it empty during much of the long year, naked under Labrador mist and pounded by arctic ice, and remembered what Benjamin Sturge had said: "She's a hard sight to see in the winter, I can tell you that."

Willie leaped eagerly from behind his rock. The roar of the murres diminished behind me. Only then did I realize the deep impression made by the island. Already I was recalling moments from my brief tour. Willie, as he came to me at the edge of the landing cliffs, was different, beaming and lighthearted. "So that's the Funks, eh?" he said, and he was proud that I had seen it. In the dory under the cliffs, Arthur and Cyril grinned. They were relaxed, in contrast to their absorbed intensity in getting me onto the island. My success was also theirs.

With a final look over my shoulder at the distant, silently streaming birds, I slid down the cliff to the boat, and Funk Island became a timeless memory.

Franklin Russell is the author of two books of natural history, Watchers at the Pond *and* Argen the Gull, *and is writing another about Newfoundland. It will be published by Alfred A. Knopf, Inc.*

THE MUZAK MEN

Thanks to them, wherever you go—be it a "Ten Mile Hop" or "To the Ends of the Earth" or "In Izzenschnooken"—you can hear "A Tricky Little Melody"

By ALAN LEVY

There is Muzak in the air here, there, and everywhere. It wafts us from womb (labor rooms at New York Hospital) to tomb (Citizens Mortuary of Sacramento). It plumbs the lower depths (motel swimming pools, nuclear submarines) and permeates the loftiest reaches (jet planes, space capsules). It oozes into top-secret Pentagon conferences, featuring Muzak to Confound Wire Tappers, and out of an upstate New York billboard advertising Biscuits Baked to Music. Bland background melodies alleviate fear in dentists' chairs, tedium in beauty parlors, "driveway anxiety" in busy gas stations, typing errors at Lever Brothers, and absenteeism at Loft's Candy. Muzak hath charms in the Bronx Zoo's reptile house, a mud-making plant in Houston, and the Federal Reserve Bank vaults. Every year, 546,000 miles of Muzak tape girdles the globe and helps the world unwind. Every day, Muzak is heard—if not listened to—by some sixty million people in twenty countries and countless cities ranging alphabetically from Aarhus (Denmark) to Zurich. The Strathcona Baptist Girls Grammar School of Australia recently subscribed, and a brothel in Stuttgart has applied for Muzak's "Light Industrial" programming.

Once upon a time an astute press agent at Muzak headquarters in Manhattan wrote a letter to an editor: "What with the press continually reporting these days how President Johnson has Muzak popping out of trees on his Texas ranch and The Elms, his former Washington residence (and probably the White House, if you listen hard enough), I think it's high time [you] did a short piece on us. Kid us a bit, if you insist, but, being fair, maybe some of our story would get mentioned."

The letter eventually fell into my hands, and I phoned Muzak to ascertain what the people behind background music were doing for me and to me. By that time the press agent who wrote the letter had left Muzak, and I was turned over to his successor, with whom I made a lunch date. Before we could keep it, however, I received the following letter from him:

"While we appreciate very much your interest in the Muzak division of Wrather Corporation, and while we are always anxious to co-operate in the development of favorable Muzak publicity, I am afraid a piece concerning atypical or anecdotal incidents found only infrequently in Muzak's truly unique and carefully programmed service would not be in keeping with our reputation or our public-relations objectives at the present time.

"Our paramount PR objective is to continue identifying Muzak as scientifically programmed background music arranged ingeniously to be unobtrusive and to render a subtle—subliminal, if you will—impetus to efficiency and an environmental inducement to well-being. This is an accurate representation of Muzak's hard-earned reputation, and we have learned through experience that crossing over this PR theme with oddities sometimes found unavoidably in Muzak's highly diversified use tends only to create misimpressions. Indeed, we continually exercise caution and rely increasingly on a growing number of controls designed to avoid oddities rather than publicize them."

Testimonials to barnyard miracles

Whew! I called this New Breed of Muzak Man and argued that, having already acquired my quota of bizarre tidbits from research, clippings, and Muzak fact sheets, I was more seriously interested in exploring the world of Muzak from overture to finale. *My* paramount objective was to meet the people who were inducing my well-being, which I consider no mere oddity.

That very afternoon I began shaking hands with Muzak men. Almost all were youngish (under forty-five); all were card carriers. In the ensuing week I was never to ask a man how he spelled his name without receiving a calling card, and with each card came some verbal admonition or other. "Don't print my name" was the most repeated. Perhaps the most useful was: "There's very little sense of humor around here."

I had asked to meet the Muzak men who sell background music to offices, factories, schools, restaurants, and, I had assumed, workingmen. (I had read, for example, that in Cleveland's main post office the employees pay the bill.) "Actually," I was told, "Muzak seldom sells to labor. Our franchisers [local concessionaires who lease and distribute Muzak in their areas] sell to companies at the presidential level or just slightly below. The company has to decide it wants Muzak. Companies like to present it to labor as a gift. Sometimes workers request it of the company—but we've found that, when they do, they rarely get it."

Two Muzak executives gave me the corporate pitch. One said: "We're not selling background music. We're selling the ability to motivate people in work situations. The vehicle is Muzak. You hear a lot about Muzak helping cows to produce milk and hens to lay eggs. [Muzak has testimonials to its barnyard miracles as well as its soothing effect on white rats at the Boeing space laboratories in Seattle. However, a report from a Normal, Illinois, agronomist that background music speeds the growth of hybrid corn has been disputed.] But this is a serious business. It's music with a purpose."

The other asked me to bear in mind that "a tense emotional labor force costs industry three billion dollars a year. Muzak eases tension as surely as aspirin eases a headache."

I was handed various independent management studies proving beyond a visible doubt that Muzak had increased productivity by 8.03 per cent and decreased lateness by 36 per cent at Prentice-Hall; reduced bill-processing time by 16 per cent at Mississippi Power and Light; improved attentiveness, enthusiasm, conversation controls, sales technique, friendliness, clarity, decisiveness of speech, and tact at Eastern Air Lines while de-

creasing turnover by 53.3 per cent. "Plane turnover?" I asked. "No, personnel turnover," I was assured hastily.

"A little girl comes to work in the morning," said the first pitchman, "and she brings all her personal problems with her. The quality of her work will depend upon how much she lets these problems dominate her during the working day. We make her work more cheerful. We try to put a smile on her face."

"And yet," said his partner, "she's not even conscious of the music."

To make myself more conscious of Muzak, I listened to its "Anti-Competitive Tape," a secret weapon used to demonstrate to prospective clients why Muzak leads all its rivals. It began with the news that "of the twenty-five largest American companies, over 80 per cent are Muzak subscribers. They rely on Muzak because it's scientifically applied to improve worker morale." While the announcer spoke, soft Muzak tinkled.

Suddenly, man and Muzak halted. The silence was deafening. When the announcer's voice returned a moment later, it was as comforting as an all-clear siren: "Without Muzak, noise and even silence become noticeable, distracting." (The impossibility of life without Muzak, once you are hooked, plays a role in the almost 100 per cent renewal rate as subscribers' three-to-five-year contracts expire.)

The "Anti-Competitive Tape" was playing Jackie Gleason's lush, romantic arrangement of *How High the Moon*. "Dreamy, wasn't it?" said the announcer. "But of course there's no place for dreaming in work situations." With clinical detachment, I noticed that the notes I'd been taking had started to sprawl languorously across the page.

How High the Moon continued, but now in a Dave Brubeck jazz arrangement. My pen raced frantically across the paper as the announcer asked: "Can you imagine *this* being played in *your* office?" Before I could say no, the song had taken on a torrid Latin complexion and my note-taking was jarred by my foot-tapping. Stan Kenton tried *How High the Moon* next, and my note-taking virtually ceased. "Entertainment music commands attention," the announcer intoned. "Therefore, it can be a distraction. But now! *How High the Moon*! Muzak office version!" Sprightly, cool, and as invigorating as a mentholated cigarette commercial, it soon had my pen skimming the lines, observing the margins, dotting the *i*'s and crossing the *t*'s.

Muzak costs anywhere from thirty-five dollars up—way up—to install, depending upon the premises covered and regional labor costs. Once installed, Muzak also serves as a paging, public address, and Civil Defense warning system. The monthly cost to a subscriber ranges from gratis (some regional franchisers donate Muzak to charity institutions and even to grand juries) up to four figures for giant corporations. Because only Muzak equipment is used and Muzak engineers make close checks on how franchisers and subscribers use it, I was assured that—technically, at least—Muzak runs like clockwork.

"Matter of fact," said the New Breed public-relations man, who was shepherding me, "we can tell the time of day by the Muzak that's being played. Some of our switchboard girls don't wear watches, but they can give you the time within two or three minutes of accuracy."

On the way to my next appointment, I noticed that the switchboard operator was bare-wristed. "Do you have the time?" I asked.

She glanced at the day's program sheet and said: "Almost a quarter to one."

"How do you know?"

"They're playing *A Tricky Little Melody*. All you have to do is recognize the song," she explained, thereby disqualifying me; once Muzak's arrangers have scientifically pasteurized *Shoo Fly Pie and Apple Pan Dowdy*, it sounds like *Bibbidi Bobbidi Boo*.

My interest in the sound of Muzak led me into a new science—ergonomics, which the *International Labour Review* defines as "using engineered methods to humanize work areas." Ergonomy measures include air conditioning, lighting, and functional furniture—but hardly any can manipulate people as readily as music does.

Musical ergonomics go back at least as far as Ivan Petrovich Pavlov's experiments on the conditioned reflex. The Muzak men first became aware of their product's ergonomic potential when their company was three years old. Muzak had begun in 1934 as a service that recorded medleys for restaurants and transmitted them over telephone lines. The name Muzak had been coined because it sounded catchy, easy to remember, and successful, like Kodak.

(Muzak, incidentally, was acquired in 1941 by William Benton, whose other holdings have, at various times, included Encyclopaedia Britannica, the Benton & Bowles advertising agency, and a United States Senate seat. Benton bought Muzak on the advice of economist Beardsley Ruml and paid slightly more than a hundred thousand dollars for it. In 1957 he sold it for many times that price to the Jack Wrather Organization, which also owns the *Lassie* television show, a hotel and monorail at Disneyland, a hotel in Palm Springs, and the Gilbert Toy Company. In 1963 the Muzak division's income was seventeen million dollars.

Back in 1937 a study published by the Industrial Health Research Board of Great Britain showed that functional background music—if properly programmed and rationed—could improve worker productivity. A few years later a similar study at the Frankford Arsenal in Philadelphia showed that background music also reduced accidents. During World War II, to keep up morale on the home front and counteract industrial noise, Muzak piped marches into defense plants. After V-J Day the Sousa was scrapped, but Muzak marched on. By 1950 it had become the world's largest user of telephone-line networks.

To stay ahead of its competition (Magne-tronics, Musicast, Musitime, Seeburg, and Teletune), Muzak not merely kept pace with the latest ergonomics research, but also encouraged it, commissioned it, sponsored it, verified it, and exploited it. Thus, Muzak's marketing director recently told a Pittsburgh audience that a properly planned program of work music can "give workers a sense of privacy" by masking conversation and

other noises while "unifying an office staff by giving individual employees something in common."

A report from the U.S. Army Human Engineering Laboratories at Aberdeen Proving Ground on "Vigilance with Background Music" was prefaced by this imposing summary of prior landmarks in musical ergonomics:

"Two recent studies by Konz found that college students performed much better when listening to programs of Muzak background music while comparing nonsense letters, tracking on a pursuit rotor, and doing a manual assembly task. But experimental findings have not always been successful in demonstrating such an effect. For example, although Mikol and Denny found that listening to a metronome improved rotary pursuit performance, McGehee and Gardner reported that their rug setters' production was unaffected, and Dannenbaum concluded that music actually made people less able to find faults in geometric figures. Kirkpatrick reported that music hindered work demanding mental concentration, but Smith found that it did not adversely affect output, error rate, or absenteeism. Freeman and Neidt concluded that students can understand a film just as well while listening to unfamiliar background music as when listening to familiar background music. Freeburne and Fleischer found that students comprehend Russian history just as well with music as without it."

Ergonomics and brotherhood were equated forever in my mind by a Muzak man named A. Oulianine, who told me: "When we first started programming for Buenos Aires, we thought special tapes were necessary and so we sent sambas, tangos, and all Latin-American tunes. But we found that they were just as attention-getting there as they would be here. We switched to the same tapes that people get in the States. Since our music is all functional, it makes no difference. People respond to Muzak the same way everywhere."

How, specifically, did Muzak work the same wonders on me and on the jute-mill laborer in Argentina? For an answer, I called upon Muzak's program director, Donald M. O'Neill. If anyone merits the title of "Mr. Muzak," it is O'Neill, an erudite musician who joined the company in 1936 and is probably responsible for more music than any other man in the world. He greeted me with an array of Mood Stimulus Charts that definitely do not apply to everybody, but do seem to apply to most people.

O'Neill led me up and down an Industrial Efficiency Curve. The typical worker arrives in reasonably good spirits, which persist until a midmorning sag around ten thirty. His morale and efficiency lift, however, as lunchtime nears. He returns from lunch still feeling chipper. But fatigue soon engulfs him. He hits bottom for the day around three thirty, but pulls himself together as the clock approaches quitting time.

The next chart showed a Muzak Stimulus Curve, varying inversely with the previous curve. From eight in the morning to nine, the programming is "*moderate*: to instill cheerful attitude at start of first half of workday." From nine to ten, "*moderate to bright*: to combat onset of potential tension." From ten to eleven, "*bright*: to counter maximum potential tension at period in

Soaring upward to a lilting waltz

morning when most critical." From noon to one, "*mild and restful*: to provide midday relief." A similar cycle starts up in the afternoon, but the brightness is brighter and so is the moderation.

The nth degree of "mood progression" can be pinpointed by varying four elements: tempo (ranging from 58 to 131 metronome beats per minute); rhythm (fox trot, waltz, samba, quick step); instrumentation (strings produce the softest sounds, brass the loudest, and there are various intermediate combinations involving woodwinds); and orchestra size (Muzak uses groups ranging from six to thirty musicians). Thus, Muzak's Tune Treasury (the company's term for its ten-million-dollar library) may include as many as five arrangements of the same song.

"Throughout the world," Muzak boasts, "a tune *designed* for playing at three in the afternoon is played at three o'clock."

Although people may be the same the world over, their immediate situations vary. At three in the afternoon a secretary may be huddling over her typewriter, a technician feeding punch cards to a computer, a factory hand racing with an assembly line, a businessman lingering over an expense-account lunch, and a jet passenger cruising at 28,000 feet in pressurized comfort. For their diverse musical needs, Muzak offers four different programs—Office, Industrial, Public Area, and Travel.

Three of the programs will fit onto one eight-hour tape. Starting at eight in the morning, the regional franchiser pipes—via telephone lines or multiplex subchannel—fifteen minutes of Office Muzak (a typical segment might consist of six selections beginning with *Quien Sabe?* and ending with *In Izzenschnooken*) to the appropriate subscribers. Then the offices go silent while the Industrial subscribers perk up for fifteen minutes and six selections, such as *The Doll Dance* and *It All Depends On You*. Offices and Industry continue to alternate all morning, while the Public Area subscribers (supermarkets, terminals, hospitals, etc.) simply absorb both dosages.

At noontime, when much of the working force is out to lunch, special Public Area programming takes over. It stresses ballads and violins (e.g., *Somewhere Over the Rainbow*) for relaxed digestion. In the afternoon Office and Industry alternate again.

"Doesn't the silence become oppressive for the fifteen minutes that Muzak is off?" I asked.

Don O'Neill replied: "Our studies have shown a law of diminishing returns in work areas. The consensus is that a total of about four hours a day should be maximum in a work situation. Otherwise, the music itself would contribute to the monotony of the job."

One music scholar has wondered if the lack of any break in Public Area programming has affected waiters, cashiers, and hatcheck girls who work to Muzak. "Probably," he surmised, "that is why they are irritable people."

When an unprogressive businessman recently asked Charles C. Cowley, Muzak's president, what he had against silence, Cowley responded: "We sell silence. Too much noise is as bad as too much silence." Muzak men do not think of silence as an enemy, but as an ally.

The tape that started at eight A.M. shuts off at four P.M. and cues in another eight-hour tape. After five o'clock all is Public Area Muzak—cocktail (such as *Zing Went the Strings Of My Heart*), then dinner (concert arrangement of *If I Loved You*), and finally dance music that grows progressively faster and brassier as the evening wanes. Commencing at midnight a third tape verges on loudness; actually, it is designed to cut through factory din not by outshouting, but with rhythmic, bouncy orchestrations that mask louder, harsher noises. *One O'Clock Jump* and *Ten Mile Hop* are regulars in this league, with occasional wistful interludes such as *You Are My Lucky Star* and, at three A.M., a suggestive *And So To Bed*. Nevertheless, for night owls and early breakfasters, Muzak's livelier melodies linger on for five more hours, concluding with *Just In Time* a few seconds before Office Muzak resumes at eight A.M.

Muzak produces three hundred and sixty-five such programs a year and boasts that no tune is heard more than once every nine days on any work shift.

Like the midnight to morning basic program tape, Travel Muzak is geared to a faster pace. Travel Muzak rides trains, planes, ships, and buses in a portable, shoe-box-size device usually switched on and off by stewardesses. It is carefully censored at Muzak's home office. Among the songs banned on airline Muzak are *I've Got a Feeling I'm Falling*, *The High and the Mighty*, *With a Little Bit of Luck*, *Stormy Weather*, and *I Don't Stand a Ghost of a Chance*. (Although Muzak uses no lyrics or vocalists, its audiences often know the words. Not long ago a plane that was taxiing toward the runway on schedule had to turn back when Muzak suddenly gave out with *For All We Know* and a female passenger became hysterical; the lyrics of that song start out "For all we know/We may never meet again. . . .") A Florida-bound flight may feature *Moon Over Miami*; a Honolulu-bound flight, *Poi for Two* and *Yankee Hula Hickey Doola*.

Hawaiian music, incidentally, is virtually taboo on Muzak Industrial or Office programs; it tends to set a draggy work pace and induce escapist reveries. Equally off limits are songs that inspire clapping, such as *Deep in the Heart of Texas*; hymns, whose sing-along impact will stop work faster than a fire alarm; rock-'n'-roll; hillbilly music; distracting fanfares; the loud, the shrill, and the classical. "Who goes into a plant, office, or bar to listen to Beethoven?" Muzak's program director O'Neill asked rhetorically. "We removed classical music from our programs, to all intents and purposes, ten years ago and we got no complaints."

The fifty-five free-lance arranger-conductors and their crews hired by Muzak have no complaints either. Muzak's musicians include, or have included, Lawrence Welk, Richard Maltby, Lester Lanin, Bobby Hackett, Pee Wee Erwin, and Urbie Green. Twice a month Muzak holds a recording session at each of which twelve songs, preselected by O'Neill and his programmers, are performed. At the session I attended, Richard Hayman conducted three-minute arrangements of *I Surrender, Dear*, Leroy Anderson's *Saraband*, Ernesto Lecuona's *Cordoba*, Richard Rodgers's *Sixteen Going on Seventeen*, a song from *Fiddler on the Roof*, and four of Hayman's own compositions.

"I like to hear my own works on Muzak first," Hayman told me. "It's a great source of experimentation—a good middle-of-the-road framework on which I can later hang anything from an arrangement for the teen-age market to a Boston Pops orchestration."

I asked Hayman if arranging for Muzak was challenging creatively. He replied: "We have to temper our thinking. It's background music, not foreground. Don't get too wild, too vociferous, too startling. If a man's eating and there's a sudden noise, he's likely to lose his soup." Muzak arrangers avoid strong contrasts in tempo, volume, and range (no screeching trumpets or extremely low bassoons, organs, or trombones). Another taboo is extended solos. A lone instrument is rarely featured for more than two or three bars in a Muzak arrangement.

It was two weeks from the night Hayman recorded *Saraband* to the night it was ingested in Omaha restaurants. What happened in between? The song was cross-indexed on a punch card. As soon as a need for it arose in the mood-progression line-up, *Saraband* joined some two hundred other entries that were listed for an eight-hour program.

Various master records containing *Saraband* and the other selections now had to be copied onto tape in proper sequence. For this, they were dispatched to the closest approximation to a disk jockey in Muzak's almost totally automated operation—Mrs. Minnie Pinker, a jaunty, blue-spectacled grandmother sitting in a glass-enclosed studio. Through her picture window she could see nine tapes copying *Saraband*. Inside her studio she listened attentively to the music and watched a panel on the wall. As Minnie Pinker hummed along with Hayman, a different panel light blinked on every five seconds. Each blink meant that Minnie was hearing another taping machine, although the flow of *Saraband* was perfectly smooth. Minnie was to report any disturbing fluctuations in volume to Muzak's engineers.

Four other grandmotherly ladies were manning studios identical to Minnie's. Less than a day later, seven of Minnie's tapes were sent by Railway Express to Muzak franchisers in Omaha, Philadelphia, Los Angeles, Boston, San Antonio, Detroit, and Montreal. An eighth was shipped to London. The ninth was retained by the home office.

At each franchiser headquarters there is a 99.44 per cent automated broadcasting studio. From there the taped program is piped to the appropriate subscribers. The studio's door is locked. Once a day it is opened by an employee who changes the tapes, monitors all the basic and special programs (Muzak provides occasional custom tailoring at extra cost to the subscriber—Continental Muzak for a local French café or Polynesian Muzak for Trader Vic's), and dusts the machines.

(It was Muzak's own engineering breakthroughs a decade ago that perfected magnetic tape transmission and led not only to this automation but also to the company's most remarkable spurt of growth. In 1953 there were eighty-three franchisers; in 1957 there were one hundred and fifty-four. Today there are two hundred and fifty.)

Once a tape is played by a Muzak franchiser, it is sent to another designated franchiser. The same program therefore may be heard on different dates in different cities, but rest assured that *Saraband* will be played at the same time of day in all of them.

Franchisers are allowed no programming leeway except on St. Patrick's Day and at Christmastime, which sometimes starts in October. For these occasions franchisers can "inject" jigs or carols from special "satellite" machinery. "People of Irish ancestry are happier if they hear Irish music on St. Patrick's Day and unhappier if they don't, we've found," said Don O'Neill, with admirable dead pan. As for Yuletide, Muzak does use a hard sell. ("Christmas Muzak stimulates business, makes silver in the coffers ring," Muzak's monthly *Marketing Memo* caroled last October. "Most of you Santa-savvy franchisers are already hard at work selling Christmas installations.") Officially, however, Muzak recommends the injection of no more than one Christmas song per hour starting December 1, two starting December 5, three starting December 12, and four December 19.

Muzak exercises strict controls against tampering and piracy. Each tape is carefully routed to franchisers, and when it eventually returns to the home office, it is monitored before being erased. Each tape is indelibly but inaudibly impressed with a special Muzak trademark. If played on any non-Muzak equipment, the tape beeps out M-U-Z-A-K in Morse code for all to hear.

Back at the home office, I paid one last call in an effort to chart Muzak's future and clarify a few discordant notes from my research. A dean of music had denounced Muzak as "pallid pap that will cause all our musical teeth to fall out." The British author J. B. Priestley told me he has "had it turned off in some of the best places" all over the world. "This constant drip of sugary stuff," Priestley remarked, "is very bad for the ear, and I'm certain that all this soothing does the mind no good." A friend of mine, who has had teeth pulled to Muzak, contends that he suffers toothaches whenever the same songs recur elsewhere.

Certain elevators in New York's Time-Life Building are wired for silence—thanks to an editor who will not ride with the captive herd. No such oases exist in an East Side apartment skyscraper, where one Muzak-hating tenant prefers to climb the sixteen flights of stairs to his luxury penthouse. In another elevator episode a gentleman and a lady he had never met were soaring upward when the Muzak struck up a lilting waltz. "Shall we dance?" said the gentleman. "Help!" said the lady, pushing the red panic button and stopping the elevator—but not the Muzak.

In 1955 a New York subway car was wired for Muzak, but it failed to activate the straphangers. Asked for his reaction, one of them replied: "Reaction to what?" In 1962 Muzak collided with Richard Lippold, the sculptor who had created a shimmering gold cobweb for the lobby of Manhattan's Pan Am Building. Lippold would not permit his bold and elegant construction to be enveloped and neutralized by soothing Muzak. Result: Muzak is in many Pan Am offices and corridors but not in the lobby.

I bore these thorns to Muzak's research manager. Having expected to confront a fatherly, white-haired ergonomist, I was

Light industry in Stuttgart

taken aback when Melvin Cohen proved to be a diminutive young man working toward his Master's degree in Marketing Management at City College in New York. Unlike the rest of the New Breed, however, Cohen was more outspoken than bland. He assured me that "negative responses come from no more than 3 to 5 per cent of the population: elderly spinster ladies, just-plain-contrary people, individualists who won't accept any music that others have chosen for them, and folks who think that, because they know something about music, they know about Muzak." Opponents of Muzak's canned instrumentals, he conceded, often make more noise than their numbers would indicate. This may be why Cohen referred to them repeatedly as "the vocal minority."

I asked Mr. Cohen how far ahead Muzak's eggheads were thinking. He replied: "In writing, we go five years into the future."

What did the future hold?

"New markets," he said. "Every new phenomenon must be served. Trading stamps mean Muzak in redemption centers. Increasing longevity means Muzak in sanatoriums and rest homes. Emancipation of women means Muzak in billiard parlors, which have a growing female clientele. More leisure time means more Muzak in bowling alleys, race tracks, and swimming pools. And, hopefully, a cultural explosion could lead to greater intellectual acceptance of Muzak." In this context I suspect that "cultural explosion" meant "cultural leveling."

The elevator was resonating to the tune of *To the Ends of the Earth* as I descended from Melvin Cohen to the Real World. The latter offers a particularly vivid contrast to life within the Muzak Building. In the interests of proximity to a phone company distribution center, Muzak dwells in a seamy district just off New York's Union Square. I had not walked more than two blocks when an old phenomenon recurred. I was panhandled.

"Hey, Daddy-o!" said an elderly vagrant with a whiskey nose. "Gimme a dime to stop bothering you."

His grating voice and lyric abuse were such music to my ears that I let him badger me clear across Union Square Park before handing him a quarter.

Alan Levy is a former reporter turned free-lance writer. He has written six books and a great many articles, most of which have taken an unblinking look at some aspect or other of pop culture.

Gargoyles for Washington

By ELINOR LANDER HORWITZ

JEAN ROUBIER

Chimeras and grotesques, like the famous nineteenth-century species on Notre-Dame (above), inhabit Gothic rooftops for no more elevated purpose than to leer at groundlings. Usually more benign are the interior carvings, like this horn-billed duck from the wooden stall of a twelfth-century Brittany church.

ARCHIVES PHOTOGRAPHIQUES

Although carving gargoyles was a common enough occupation in the Middle Ages, there has been little work for a would-be gargoyle sculptor to sink his chisel into over the past four hundred years. Churches have sustained the market for sitting, standing, or air-borne saints, angels, and cherubim, carved of stone or wood, right through the centuries, but gargoyles have become passé.

One morning a few years ago, the Dean of the Washington Cathedral (or the National Cathedral, as it is known unofficially) announced to the newspapers that he was sending out a call for thirty new gargoyle designs for use on this twentieth-century English Gothic-style structure. He was inviting professional and amateur sculptors, with or without experience in this specialized field, to submit entries. The request provided whimsical provender for breakfast-time newspaper readers. Appearing cheek by jowl with dour predictions of nuclear catastrophe and unwelcome disclosures of carcinogenic agents lurking in our polluted air, the very *word* "gargoyle" held the allure of a Minoan shard or a dinosaur's footprint.

The opportunity to submit a gargoyle for what will, upon completion, be the sixth largest cathedral in the world proved so tantalizing that four hundred sculptors in the United States and western Europe took the first step and wrote for further details. I was among the applicants. When my instructions arrived, in a bulky envelope, it became apparent that what the dean was *not* calling for was the little zoo of fantastic clay animals that I had been molding in my imagination. In specifying a gargoyle, the cathedral meant just that: one bona fide gargoyle, to be modeled in plaster according to specified dimensions and limitations so that, if accepted, it could be translated directly into limestone by one of the cathedral's stone carvers.

One page of instructions showed front, end, and isometric drawings of twenty-eight-by-fourteen-inch limestone blocks. Each stone appeared to possess a predrilled channel through its length, terminating in a spout, and apparently was already mounted on the cathedral's north transept, waiting to be carved. Another page showed the exact configuration of the architectural molding into which the stone was set. The rules—numbered from one to eleven—explained that the model must be hollow-shell plaster with a three-inch-thick pipe in the spout position mounted on a sturdy armature and "constructed in the form of a one-half profile to minimize its weight."

I studied the written instructions and accompanying diagrams for some time and, not being trained in architectural engineering, found myself unable to interpret anything except rule number one ("All models submitted become the property of the Washington Cathedral") and rule number nine ("The cathedral reserves the right to carve the model in stone at any future date convenient to its carving schedule").

My inability to grasp the instructions, penetrate the blueprints, or locate a gargoyle expert who might be able to shed light on the matter became something of an obstacle to my sincere desire to heed the call for help from the Dean of Washington Cathedral. I searched my brain for information about gargoyles, but all I could remember was that I had once climbed a great many steps at Notre-Dame de Paris in order to see, close up, a marvelous array of them.

It seemed that some research was required. I undertook a study which led eventually to a certain expertise in the field of gargoyles, which I sometimes find useful at cocktail parties. During the first hour at the library my total existing store of gargoyliana was demolished: the "gargoyles" perched in such saucy attitudes on the parapets of Notre-Dame are neither ancient nor are they gargoyles. They sprang from the imagination of the nineteenth-century restorer of Gothic monuments Viollet-le-Duc, and not from the whimsey of a thirteenth-century carver.

Or How an Almost Extinct Species of Beastie Regained its Place in the Sun—and Rain

And as for their generic name, their proper designation is "chimera," since they are not functional, but are purely ornamental creatures. They are not, and never were, possessed of a *gargouille*, or throat.

I learned that the one identifying feature essential to any gargoyle worthy of the name is a water spout through its length. To the eye of the beholder a gargoyle may appear to be a cunningly designed carving of a human being, animal, or fantastic creature, but to the Gothic architect, in an era before galvanized downspouts, it was a tricky bit of plumbing. In large Gothic buildings of the thirteenth to fifteenth centuries, with their richly carved façades and delicate window tracery, gargoyles became a conventional and decorative means of protecting the outside walls from stains and erosion. These projecting forms were connected with the roof gutters, and through their spouts conducted the water outward, clear of the walls.

The idea was too basic to be new. Terra-cotta troughs of similar design were used in Pompeii to serve the same function, and Egyptian, Roman, and Greek edifices had employed animal heads as spouts, but the term "gargoyle" came to refer specifically to the carved spouts draining the lofty roofs of Gothic structures.

Since no creature, whether human, animal, or monster, can look dignified when water is made to pour out through its mouth, Gothic carvers explored all the comic possibilities of the subject. The exuberant fancies of these masons were lavishly manifested in their work, and gargoyles became a sort of folk art. In the Middle Ages each master stonemason was free to execute his own ideas. Although the interior of a cathedral had to conform to a specified iconographic scheme, the design of the exterior details allowed for considerable freedom. As Gothic architecture became less and less austere, every inch of the cathedral's exterior walls became potential carving ground. Portals, lintels, tympana, voussoirs, and archivolts were given the most prodigal attention by thousands of inventive masons who worked from dawn to dusk (earning a few pence more on long summer days than in the short ones of winter).

The carvers seem to have particularly delighted in designing monstrous animal forms, sometimes fearsome, sometimes purely comic, and sometimes simply elongated versions of actual animals. Gargoyles challenged their virtuosity because of the limitations imposed by their water-bearing function. But there were other opportunities. The flamboyant chimeras of Notre-Dame, which were suggested to Viollet-le-Duc by a row of medieval chimeras at Reims, represent another category of cathedral beast. The soaring exteriors were further embellished with grotesques: abbreviated forms—more usually just the face—carved at the ends of gables and other terminal points, and also tending to represent fantastic creatures.

Animals carved inside a church or cathedral are infinitely more decorous-looking than their rampaging kin on the exterior walls. For one thing, they usually keep their mouths shut. They are either animals of religious symbolism, such as the *Agnus Dei*, or heraldic animals, or animals from Bible stories or from the medieval bestiaries. Gentle farmyard creatures are often found nestled on misericords, stalls, and bench ends. On tombs, docile stone lions accept the booted feet of knights, while ladies rest their soles on benign terriers. But out-of-doors in the wind and the rain—in the heady spaces where the towers meet the parapets and the buttresses fly—gargoyles and chimeras stick out their tongues at leering masks and shrieking grotesques.

Any symbolic significance that has accrued to gargoyles over the centuries is ex post facto. First came the spout, engineered by the architect; then came the ornamental caricatures, carved by the mason; and then came the interpretation, fashioned by the theologians. A popular symbolic meaning that gar-

TWO PHOTOGRAPHS BELOW:
ELIZABETH G. C. MENZIES

Following the example of their medieval forebears, Princeton University's twentieth-century gargoyles and grotesques (above) are often witty and topical.

More traditional in form, the author's own monster (above) will join a band of howling gorgons and manticores (below) to keep vigil over Washington.

THREE PHOTOGRAPHS ABOVE:
COURTESY OF THE WASHINGTON CATHEDRAL

goyles have acquired is that the church converts even the most monstrous evil forces to good work. Gargoyles are also said to represent devils flying off into darkness before the power of good. It is thought that in the Middle Ages, when evil spirits were believed to exist in tangible forms, the gargoyle represented the ever-present threat of the Devil, and this reminder prepared the worshiper to enter God's house and seek salvation. "Good" was said to exist within the cathedral walls, and "Evil" without.

The concept of gargoyles as reminders of evil in the world remains perfectly valid in the twentieth century. However, the call from Washington Cathedral elicited not only the interest of sculptors but the indignation of a disputatious lot of folks who wrote the Dean protesting the use of gargoyles on a twentieth-century cathedral. Gargoyles, they said, were appropriate only for backward, superstitious people of a less-enlightened and best-forgotten age. The Dean pointed out, in answering these objections, that modern man, although he does not believe literally in evil spirits, recognizes the evil spirit within *himself*. He wrote, "There can be no salvation if there is no evil to be saved from." He also pointed out the fact that gargoyles and grotesques appear only on the exterior of the cathedral, where three hundred and eighty-five angels, carved on the central tower, soar above and look down upon them. (Gargoyles have always held a hierarchical position subordinate to angelic, celestial images.)

Somewhere in the course of my reading, the significance of the baffling directions and diagrams had suddenly become manifest. During the winter months I did manage, with great difficulty, to contrive a gargoyle acceptable to the triumvirate of judges composed of the cathedral architect, the master carver, and the resident sculptor. Their decision to accept my model delighted me. It also canceled the dilemma I had been fearfully anticipating, because now the gargoyle is the property of Washington Cathedral (see rule number one). I had been trying to decide what to do with a rejected half-profile of a plaster gargoyle measuring twenty-eight inches horizontally, having an open soup can for a mouth, and mounted on an exact replica of the cornice molding of Washington Cathedral.

Even if Christmas is coming and you have friends who "have everything," you will find that they do not *want* half a plaster gargoyle with a soup-can mouth mounted on a replica of the molding of Washington Cathedral. A *whole* gargoyle mounted on their *own* gutter could conceivably please them, but even that is a bit dubious.

Although the judges had hoped to find thirty suitable models to add to those already designed by the cathedral's stone carvers and resident sculptor, only twelve entries were eventually deemed acceptable. I asked the Clerk of the Works why so many of the models were turned down. "Most people," he said, "did their modeling on a table and neglected the underside completely. Now *who* do you think sees the top side of a gargoyle?" He led me over to the north transept and pointed upward sixty feet to the underside of the stark rectangular blocks with only their protruding spouts suggesting their purpose. They looked very small from the ground. "No one," he said with a smile, "*ever* sees the upper side of a gargoyle—except some pigeons and the Holy Spirit."

The carving schedule at the cathedral is intricately related to master plan, weather, finances, labor force, and other unpredictabilities. Construction on the edifice began in 1907, and the cathedral is now 65 per cent finished. The judges, in their wisdom, decided that the first of the twelve new gargoyles to be carved on the cathedral should be the creature designed by a nonagenarian sculptor from Detroit.

Since this was not a contest but an ecclesiastical call for assistance, the rewards received by the twelve designers were of the perpetual variety. They included the pleasure of giving and the joy of serving. More vainglorious sculptors also will enjoy the gratification of someday seeing their very own beastie carved in stone on the cathedral wall with their name inscribed close by. This signature and the sculptural details of the gargoyle will be visible forever to any sculptor or his or her mother, spouse, or descendant. All that is required for the viewing is a spy glass and either an eighty-foot scaffolding or an ability to perform the Indian rope trick.

Since having my gargoyle accepted, I have stopped in several times at the office of the Cathedral's Clerk of the Works, and each time the following dialogue has taken place:

> I: I'm sure you don't remember me, but—
> They: Of *course* we remember you. You're one of our gargoyle people, aren't you?

In this complex century, when automated classification seems to be turning us all into perforations on mechanically sorted cards, it is a special bonus to be categorized in some quarters simply as "a gargoyle person."

Elinor Horwitz lost her amateur standing with the publication of The Happy Dilettante *two years ago, and is now a free-lance writer on such pastimes as bicycle riding, spelling bees, and zoo nomenclature.*

Photographs by HELEN LEVITT *Text by* JAMES AGEE

A WAY OF SEEING

Before Helen Levitt and James Agee worked together on the highly acclaimed documentary movie The Quiet One, *they had planned to collaborate on a book of photographs and text. Miss Levitt took the pictures, mostly in the streets of New York's Spanish Harlem, during the 1940's, and Agee wrote a poetic essay to unify and accompany them. The book remained unpublished, however, while Miss Levitt worked on other films and continued to establish her reputation as a photographer. Her work has been shown at museums and photographic exhibits all over the country.*

Until he died in 1955, Agee wrote film criticism, magazine articles, scenarios, and books—including Let Us Now Praise Famous Men *and the novel* A Death In the Family. *This novel, published posthumously, won the 1957 Pulitzer Prize.*

A Way of Seeing *will be published for the first time by the Viking Press in August, as it was originally conceived in the 1940's by this distinguished team. On this and the next ten pages,* HORIZON *presents a selection of photographs and text from the book.*

"hieroglyphs of innocence"

It is clear enough by now to most people that "the camera never lies" is a foolish saying. Yet it is doubtful whether most people realize how extraordinarily slippery a liar the camera is. The camera is just a machine, which records with impressive and, as a rule, very cruel faithfulness precisely what is in the eye, mind, spirit, and skill of its operators.

It is, in fact, hard to get the camera to tell the truth; yet it can be made to, in many ways and on many levels.

In every other art which draws directly on the actual world, the actual is transformed by the artist's creative intelligence into a new and different kind of reality: aesthetic reality. In the kind of photography we are talking about here, the actual is not at all transformed; it is reflected and recorded, within the limits of the camera, with all possible accuracy. The artist's task is not to alter the world as the eye sees it into a world of aesthetic reality but to perceive the aesthetic reality within the actual world, and to make an undisturbed and faithful record of the instant in which this movement of creativeness achieves its most expressive crystallization.

Helen Levitt's photographs seem to me as beautiful, perceptive, satisfying, and enduring as any lyrical work that I know. In their general quality and coherence, moreover, her photographs seem to me to combine into a unified view of the world, an uninsistent but irrefutable manifesto of a way of seeing, and, in a gentle and wholly unpretentious way, a major poetic work. Most of the photographs reproduced here come as close to the pure spontaneity of true folk art as the artist, aware of himself as such, can come; and an absolute minimum of intellection, of technical finesse, or of any kind of direction or interference on the part of the artist as artist stands between the substance and the emotion and their communication. Readers who particularly like children will find here as much to meditate and understand, or be mystified by, as anyone, so far as I know, has ever managed to make permanent about children.

ICE
COA

"This is the record of an ancient,
primitive, transient, and
immortal civilization. . . . The cardinal
occupations are few, primordial,
and royal, being those of hunting,
war, art, theater, and dancing."

"from very early,
the germ of the
death of childhood
is at work"

"profundities
of grave purity"

"man-eating motherhood"

"unappeasable hunger and pity"

"peering into the
open world from within
their primal harbor"

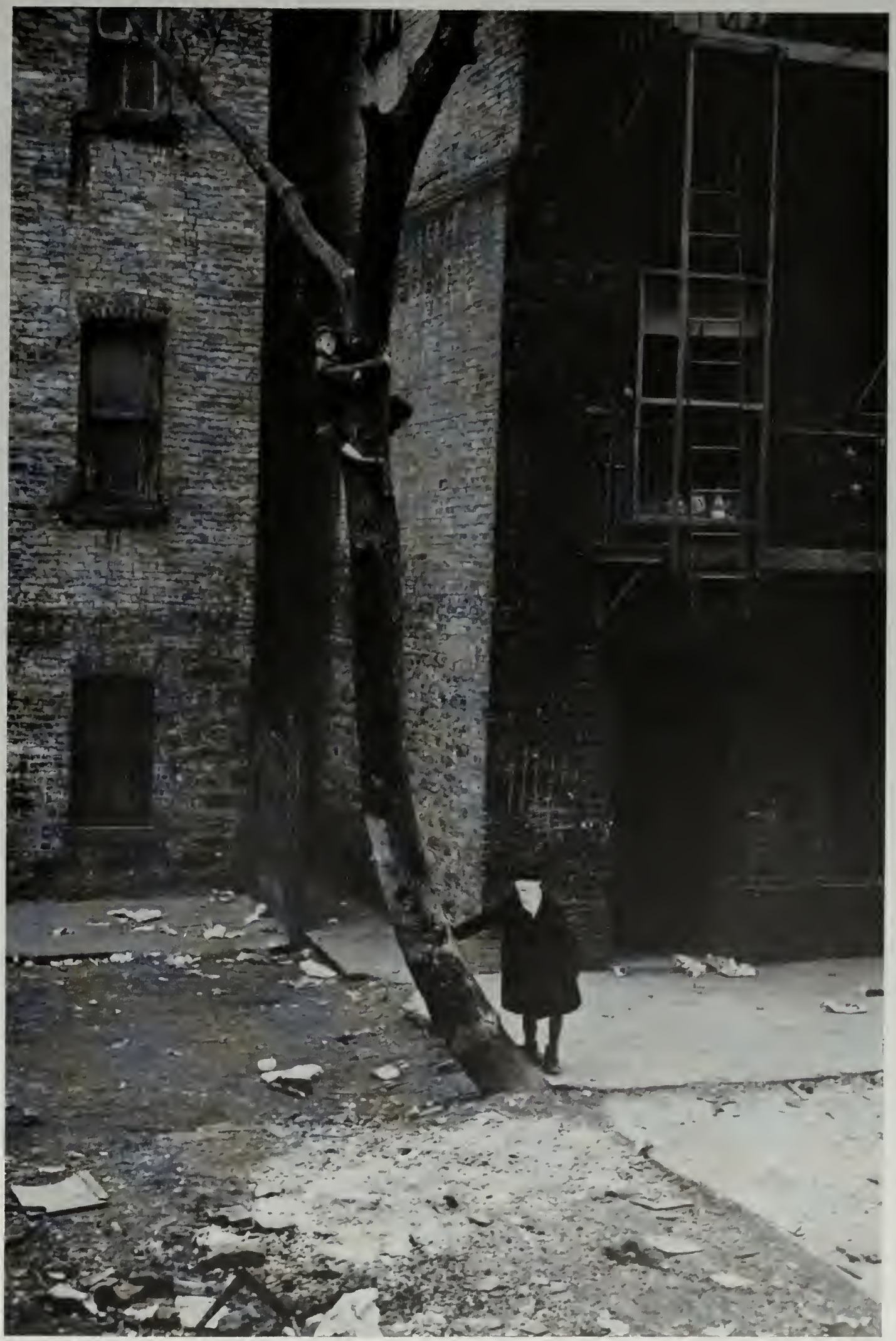
"a quality of mystery—

a strong undertone even,

of terror"

"the first walk
into the world's
first morning"

"the moment
when masks are
laid aside"



"treed and at home in their

jungle's stony shade"

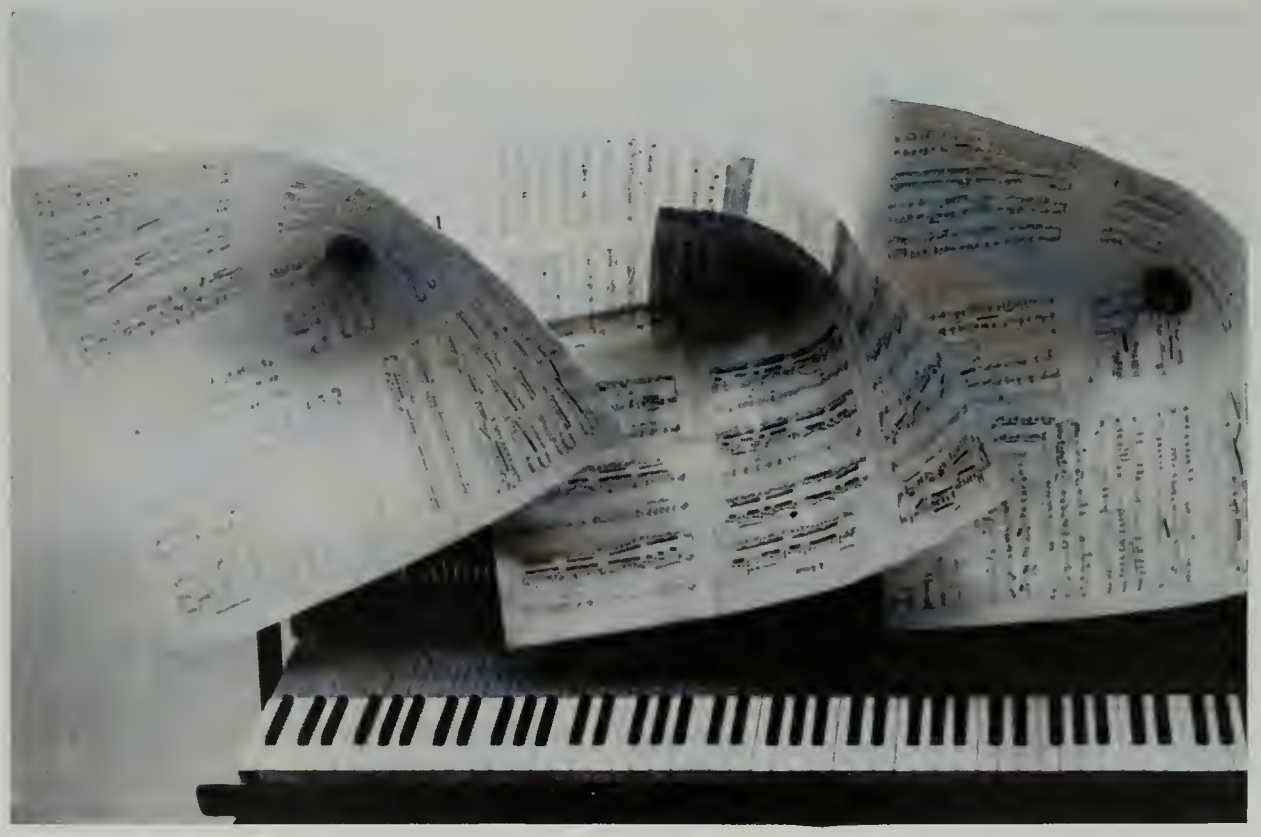
"a warlike frieze

in a strange frame of

electric wiring"

"centrifugal, fire-dance fury"

# of SHAPES and SOUNDS



Looking like some predatory radar-scope, the instrument opposite emits deep, mellow tones when damp fingers are rubbed against glass rods; these frictional sounds are amplified by a pair of glittering metal reflectors. The piano at right enlists stiffly varnished sheets of music for the same purpose. A concert ensemble of Baschets, Lasrys, and friends performs at the bottom.

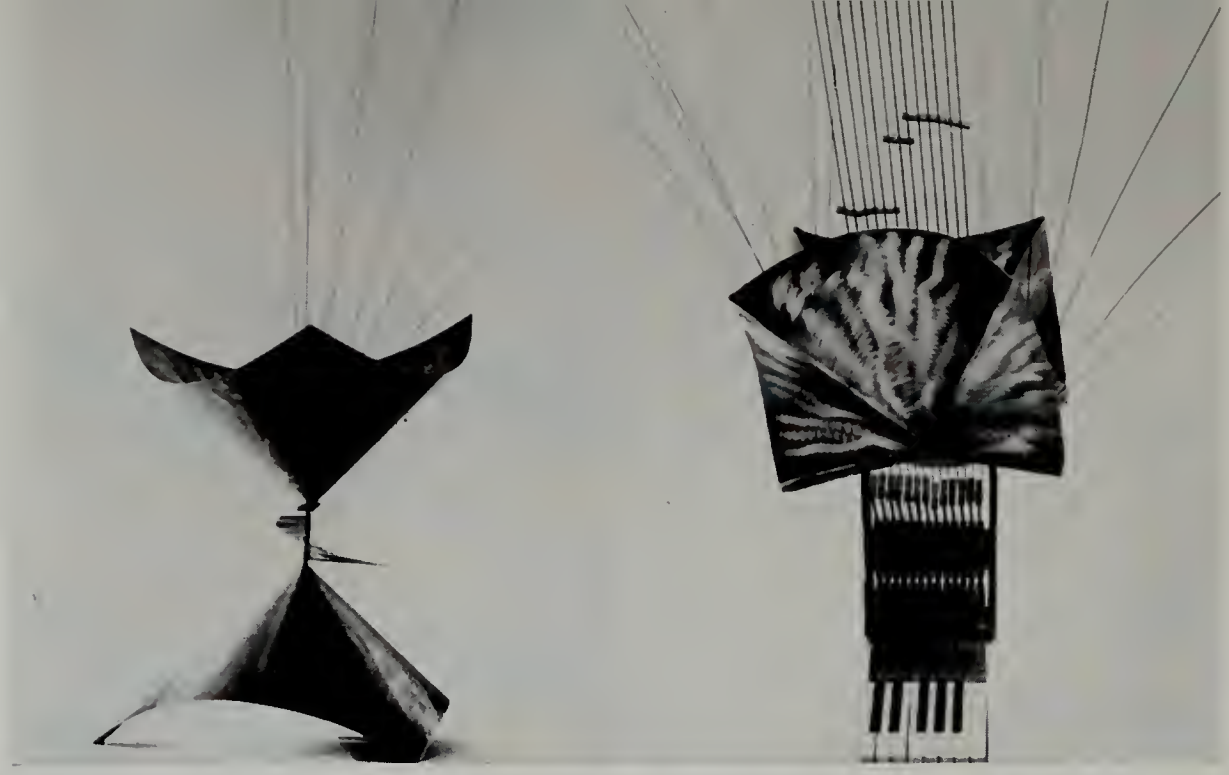
According to two Frenchmen named Baschet, Western music is mired in an instrumental tradition that is as inappropriate to the age of science as it was superbly sympathetic to the eighteenth century, in which it mostly was developed. Some eleven years ago the *frères* Baschet, one a sculptor and sometime musician, the other an engineer, joined talents with the composer Jacques Lasry and his wife. The four have since assembled a surrealist consort of more than thirty *"structures sonores"* as their remedy for the "anachronisms" they find in contemporary music.

The Baschet-Lasry instruments may be radical in appearance, but they are tuned to the conventional tempered scale and, except for the *"grille rythmique"* on page 62, played from conventional scores. Thus, their programs regularly mix Bach and Bartók with works created especially for the new sonorities.

The difference lies in the timbre. Sounds are produced by using unorthodox vibrating elements: glass rods, metal bars, and wires replace strings

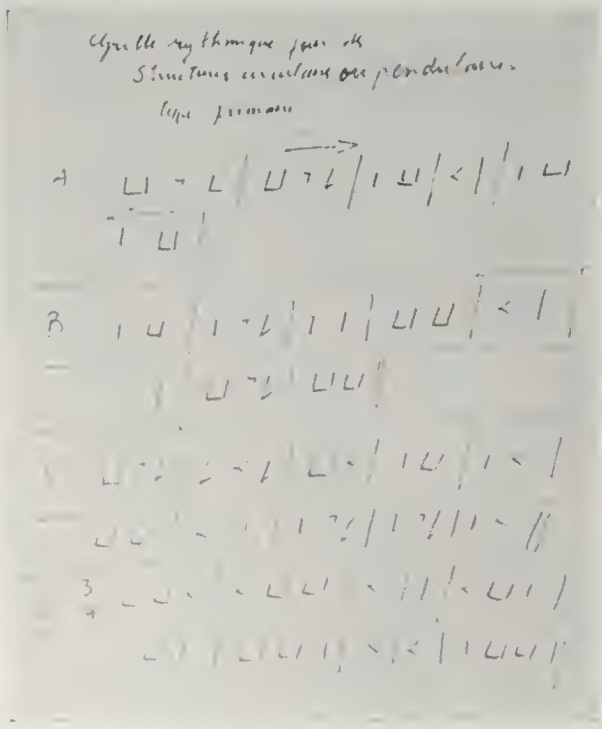
PHOTOGRAPHS MIRELLA RICCIARDI EXCEPT WHERE OTHERWISE NOTED

ANDERS HOLMQUIST



SHUNK-KENDER

The "Piano Portatif" *at top right is activated by hammers, like most classic keyboard instruments, but steel rods replace strings, and steel scoops the wooden sounding board. The* "Spirale" *(top left) with its antenna-like vibrating wands, and the collection of funnels at the left, are both tuned percussion instruments for which the notation at bottom provides a rhythmic pattern. More space-age than heavenly, the monumental* "Harpe" *opposite wafts its ethereal music on wings of sheet iron.*



and reeds; inflated cushions of red plastic and huge metal reflectors provide the amplification normally entrusted to wood and brass. Although the sound sometimes suggests electronic music, it is produced and amplified by purely mechanical means. Hammer tapped on metal bar, dampened finger stroked along glass rod, metal wand bowed across wire—whatever the mechanism, the musician is still very much involved and in control.

This harmonious joining of the practical and the aesthetic has earned for the Baschets and Lasrys the approval of such essentially nonmusical institutions as the Musée des Arts Décoratifs, in Paris, and New York's Museum of Modern Art, which will have a three-month exhibition of the instruments this fall. The team has also provided the score for several documentary films, including *The Sky Above—the Mud Below*. For all the unconventionality of their appearance, the *"structures sonores"* are like most conventional instruments in this respect: they are beautiful in themselves.

W.B.

The Rediscovery of Crete

It is only sixty-five years since Arthur Evans first revealed the unsuspected glories of the great pre-Greek civilization of Crete. If the revelations go on, so do the controversies

By M. I. FINLEY

The Greek historian Polybius, writing in Rome about 150 B.C., criticized philosophers who included Crete in discussions of the ideal state. "With few exceptions," he said, "you could find no habits prevailing in private life more steeped in treachery than those in Crete, and no public policy more inequitable." Greed and avarice "are native to the soil in Crete," where the people "are engaged in countless public and private seditions, murders, and civil wars."

Polybius had a habit of making sharp and not necessarily reliable generalizations about the people of various Greek regions, especially about those he did not like. Nevertheless, it is true that the Crete of his day was a backwater of the Greek world and a major base for piracy in the eastern Mediterranean. There was nothing very interesting to be studied in the institutions of contemporary Crete. But the island was also a place of legend and traditions, some of them singular and curious. There was, for example, King Minos, who controlled the sea with his navy and was famed for his sense of justice, the gift of his father, Zeus. Minos had at his court that peerless craftsman, the divinely descended Daedalus, a refugee from Athens who made wings with which he and his son Icarus flew away. Icarus soared too close to the sun, his wings melted, and he was drowned in the sea. Minos pursued Daedalus to Sicily and was killed there (also by drowning) by the daughters of a local king, Kokalos. In Hades, on the testimony of Odysseus who visited the place, Minos could be seen seated on a golden throne dispensing justice.

Myth is rarely consistent, of course, and there was another, less attractive side to Minos. He was married to Pasiphaë, daughter of the Sun, who developed an unnatural passion for a bull that had come out of the sea. Minos himself was in one sense the offspring of a bull, but that was different, for his father was actually Zeus in disguise (his mother was Europa). Pasiphaë, however, was in love with a real bull; she appealed to Daedalus, who rigged up a contraption that enabled her to have intercourse with the animal. Pasiphaë then gave birth to a monster, half man, half bull, called the Minotaur (literally, the Bull of Minos). The king housed the Minotaur in a specially constructed labyrinth and commanded the Athenians, who were his subjects, to supply seven youths and seven maidens every year to be fed to the monster. One year Theseus, the young son of the Athenian king, persuaded his father to include him in the annual consignment of victims. When he arrived in Crete, Theseus promptly won the love of Minos's daughter Ariadne and with her aid slew the Minotaur. The two of them then fled—oddly enough, they were not pursued—but when they

"Horns of consecration," one of the most common Minoan religious symbols, rise on a terrace of the palace of Minos at Knossos. Their similarity to the sacred bulls' horns discovered in a neolithic shrine in Asia Minor provides further evidence of the cultural ties that connected the island of Crete with the Asiatic mainland.

reached the island of Naxos, Theseus deserted Ariadne; the god Dionysus found her there and married her.

Zeus's interest in Crete was not restricted to Europa and Minos. He himself was born on the island, in a cave, where his mother had gone into hiding to save the child from her husband, the Titan Kronos, who had the habit of devouring his offspring. Whether the cave was located on Mount Ida in central Crete or, much more likely, on Mount Dikte farther east, was a matter of dispute. Crete is dotted with mountain caves, and hundreds of them were occupied by neolithic people at least as far back as 6000 B.C. Many became and remained sacred shrines well into the historical Greek period, and conflicting claims were inevitable. But it was agreed by nearly everyone, not just by Cretans, that the island was the birthplace of the king of the Olympian gods, and that is of first importance. Why Crete, after all?

There are sites which naturally evoke feelings of mysticism and awe, which have what students of religion call a numinous quality. Delphi, for example. Visitors to Delphi feel it even today, despite the modern hotels and souvenir shops, the parked cars and tourist buses. Caves and springs have it, too. But it would be difficult to argue that Crete is in any way supremely, or even especially, numinous. It is the largest island in the Aegean Sea, an oblong about 160 miles in length and 36 miles wide at its broadest point, with an area of 3,235 square miles (slightly smaller than Cyprus or, say, Puerto Rico). It is mountainous, and the view when one approaches by sea from the south is harsh, rugged, and spectacular. Some parts, notably the White Mountains in the west, are virtually inaccessible, fit only for wild goats and outlaws, today as in antiquity. Once Crete was famous for its cypresses and oaks, its pastoral uplands, its olives and vines, its fertile meadows, its harbors on the northern and eastern sides. (If it is now mostly a barren waste, that is the result of Christian and Saracen mismanagement during and after the Middle Ages.) And it is an island of caves.

Yet when all that is said, the birth of Zeus on Crete remains unexplained, for much the same description can apply with equal truth to many parts of Greece and Asia Minor (modern Turkey), and to other Aegean islands. It was not its geography that gave Crete a special pre-eminence, but its history, or rather, its prehistory. There was a time—between 2000 and 1400 B.C., in round numbers—when Crete had a Golden Age, when it was far richer, more powerful, more civilized, than any other area of what was later to comprise the Greek world. That early culture was destroyed and literally buried: even its physical remains were soon no longer visible. But a vague memory hung on. Life itself did not disappear from the island. Many of the once great centers (though not all), such as Knossos and Gortyn and Phaistos, eventually found a new existence as minor, relatively impoverished Greek cities, dimly aware in a distorted way of a great past, of Minos and his labyrinth and his Minotaur, of being the birthplace of Zeus, the greatest of the Olympian gods.

The dimness of their knowledge must be underscored. If a Cretan in, say, the fifth century B.C. (or any other Greek at that time) were asked about Minos, he would have described him as a great Greek ruler who lived once upon a time. He knew that there had been an age when Crete was inhabited by non-Greeks, whom he called Eteo-Cretans ("true Cretans"), and from whom the people of Praisos in eastern Crete claimed to have descended. But he never doubted that the Golden Age was a *Greek* civilization essentially like his own, only brighter, richer, greater. Did not a grandson of Minos, Idomeneus, lead one of the famous contingents against Troy under Agamemnon? And what were Agamemnon and his Mycenae and the expedition he commanded but Greek, not only in the language they spoke but also in their way of life?

This false image held the field until the beginning of the twentieth century. For most of the intervening centuries few people in western Europe ever gave a thought to Crete, anyway. It was fought over and exploited from time to time by Romans, Byzantine emperors, Saracens, crusaders, Turks, and finally, almost in our own day, by Greeks who brought the island back into the national territory. But it had little intellectual or historical interest, as Polybius already had asserted, whether from reading books or through direct personal investigation.

The first important breakthrough was made in 1834 by a young man from Trinity College, Cambridge, named Robert Pashley. He had completed the normal university course in classics and mathematics, and he was to make his mark at the bar. But first he joined that remarkable constellation of nineteenth-century British explorers and archaeologists—Layard, Burton, and Stanley are perhaps the most

With its great bowl of porphyry, which was probably used for ritual purposes, the antechamber to the throne room was one of the many rooms restored by Evans within the Knossos palace. Throughout the palace, pillars and ceilings were rebuilt, and versions of the frescoes reconstructed from fragments found at the site were placed upon the walls. These frescoes, like Evans's entire restoration work, contain far too much that is conjectural to satisfy the archaeological purist, but even Evans's most determined opponents have been forced to admit that the reconstruction does provide a good impression of what a Minoan palace looked like.

RADIO TIMES HULTON PICTURE LIBRARY

Since the decipherment of the Cretan script known as Linear B, fierce controversy has raged around the work of Sir Arthur Evans, who excavated and restored the palace of Minos at Knossos.

famous and certainly the most spectacular—who were opening up vast new and exotic fields of inquiry. At twenty-seven Pashley had learned from ancient geographers and historians and from scraps of medieval and modern information, some of it unpublished, everything there was to be known about the island of Crete. He then set out, accompanied by a Spanish engraver from Malta named Antonio Schranz, to map and describe as many of the ancient places as he could locate. He had an Indian scout's eye for terrain, so that a modern expert could say of his seven-odd months' work that Pashley "identified most of the important sites with an accuracy which had never before been attained and has in few cases since been challenged."

He was also a gifted linguist with a genius for winning the confidence of the local population, no small reason for his success. Crete in 1834 was still under the rule of the Turks, having been returned to them in the settlement following the Greek war of independence of 1821–31. The Cretans, partly Christian, partly Moslem, were illiterate, ignorant, and impoverished, and they had no reason to trust anyone. "Before the outbreaking of the Greek revolution," Pashley wrote, "Crete was the worst governed province of the Turkish Empire."

Pashley's two-volume illustrated account of his travels was published in 1837. There were no more volumes since all his papers and drawings went up in flames the following year. What he managed to get into print is fascinating not only for its detailed explanation of his procedures in making the identifications he was after but also for its descriptions of Cretan life, and, incidentally, of what the local population imagined about their own distant past. One boy of ten, for example, told him that "the Cretan labyrinth was one of the seven wonders of the world, in the time of the ancient Hellenes," and that "these seven wonders correspond to the seven sacraments of the Christian church." Pashley himself had no more idea than the ten-year-old of a great *pre-Greek* civilization. He was looking for Greco-Roman remains and he found some, believing them to belong to "the very earliest period of civilization." When he reached and located Knossos, he was led to remark, as a good rationalist, that the "natural caverns and excavated sepulchers" in the neighborhood "call to mind the well-known ancient legend respecting the Cretan labyrinth. . . . There is, however, no sufficient reason for believing that the Cretan labyrinth ever had a more real existence than its fabled occupant."

Some seventy years later, Arthur Evans, looking back ten years to his first dig on Crete, was able to write: "The city of Minos, the legendary site of the Palace wrought for him, with all the artistic wonders it contained, by his craftsman Daedalus . . . and of the labyrinth itself, naturally stood out as the first objective." Between Pashley and Evans a complete revolution in thought had occurred—a revolution that was born not on the island itself but first in Asia Minor and then on the mainland of Greece, the achievement of one man, Heinrich Schliemann. Some investigation had been going on in Crete right along, but it stuck, as Pashley had, to Greek remains and Greek documents. The results were by no means unimportant: one find, at Gortyn, comprised large sections of a fifth-century B.C. law code inscribed on stone, which is still unique among Greek antiquities. The study of Greek history and Greek civilization was thus considerably advanced, while the glory of early Crete remained as hidden and improbable as it had been to Polybius two thousand years before.

Then came the incredible Schliemann—at Troy beginning in 1870, at Mycenae in 1876, and at Orchomenus in central Greece in 1881—and the world learned, to its astonishment, that Greek legends had to be taken seriously after all, even though not as literally as Schliemann himself insisted. Schliemann would not have been Schliemann had he not tried to extend his efforts to Knossos. But there old age and Turkish bureaucratic obscurantism finally thwarted him, and he achieved no more than an unsuccessful trial trench. The secrets of Knossos were left for Evans to discover, and no man has ever dominated an archaeological field so completely (unless it be the Abbé Breuil and prehistoric cave paintings).

Arthur Evans (Sir Arthur from 1911) has unfortunately picked up some legendary qualities in our day, which complicate issues that have since arisen. One is the preposterous no-

tion that he was really a brilliant amateur. The facts are these: son of a distinguished archaeologist and numismatist, he received the best classical and historical education available; he then spent six years at Ragusa (now Dubrovnik) studying the archives and antiquities of the south Slavs and ancient Illyrians. He worked with his father-in-law, the noted historian E. A. Freeman, on the ruins and coins of Sicily, and he had further archaeological experience in Britain. There were very few, if any, better trained archaeologists in all of Europe in 1884, when Evans was appointed Keeper of the Ashmolean Museum in Oxford at the age of thirty-three.

During a visit to Athens, Evans acquired a few engraved sealstones from Crete, on which he thought he detected some signs from an unknown script. Off he went to the island to search for more, which he found without difficulty, for they were being worn by pregnant women as amulets. "Milk-stones," they called them. In antiquity these stones were also worn around the neck or wrist, but their function was not that of amulets or charms. The engraved design was the owner's stamp or mark, with which he "sealed" documents or pottery or whatever else required such identification.

The "milkstones" settled it for Evans: he would dig at Knossos. Since he was heir to two fortunes, he was able to overcome the difficulties that had stopped Schliemann. In 1894 he bought the site. But he still had to wait until the Turks finally left the island late in 1899, after which he began to excavate almost at once, and in his very first campaign he discovered the palace and a number of inscribed tablets. "Minoan" civilization, as Evans named it, was reborn in 1900, for he promptly realized that here was a culture far more advanced than that of the Stone Age and at the same time in many of its essential qualities different from the later culture of Athens or Sparta, or even of Greek Knossos. There could be no better or more easily visible symbol of the difference than the great palace itself, the labyrinthine structure which subsequent excavations elsewhere on Crete have shown to be characteristic of the Minoan world. This kind of palace, or any kind for that matter, was totally unknown among the later Greeks. Their characteristic monumental building was the temple framed in columns, a structure that had been wholly unknown to the Minoans. As was monumental sculpture: there were no large statues in Crete, whether of men or of gods. And there were no indications of a supreme male deity: if Zeus was an old god on Crete, and not a later importation, he was a very weak forerunner of the Greek Olympian.

As excavation and study continued, it became obvious that Minoan civilization was palace-centered, with analogies to the contemporary civilizations of the Middle East rather than to later Greece. Behind Minoan civilization lay a very considerable increase in population from the small numbers scattered in the neolithic mountain-cave habitations, a great advance in technology—including the use of metal—and the growth of a complex social organization and power structure. Whoever built the palaces commanded great resources in both materials and manpower, and they had access to ideas and goods from Egypt, Syria, and even Babylonia. All the important Cretan centers were near good harbors, or, more accurately, protected beaches, for at this period ships were drawn up on land in bad weather.

Perhaps the most astonishing aspect of this civilization was its apparent peacefulness. The palace complexes were not fortresses like those of Mycenae, Tiryns, or other mainland centers. Nor were there traces of any other kind of fortification, and scarcely any of arms and armies. In this respect Crete was utterly unlike its contemporaries. Not even the kings are visible: there is a throne in the throne room at Knossos, but the walls are decorated with mythical animals and floral designs. Control of the seas could explain the feeling of perfect security from attack overseas. But was there never any danger of conflict between palaces? And was there no need for compulsion and police protection at home?

These are obvious questions to ask; they cannot be answered at present because the available evidence consists largely of material objects—buildings, tools, pottery, works of art—and those can never tell us very much about the social institutions or ideas of a civilization. Evans and other archaeologists found numbers of inscribed tablets, but in his lifetime they defied all efforts at decipherment. It is an oddity of Evans's career that, having been drawn to Crete by his discovery of unknown written characters on sealstones, he proceeded to concentrate on everything else he found while neglecting publication of the tablets and probably delaying the decipherment as a result.

Evans died in 1941 at the age of ninety, still at work on his publications. A man of demonic energy and will power, he commanded the loyal support of a group of very able associates, and his pioneering efforts were quickly followed by other excavators all over Crete. He was also a ferocious polemicist who could, and did, crush dissident voices. By 1941, therefore, the generally accepted picture of Minoan Crete was Evans's, including, it is proper to add, no small amount of imaginative inference and reconstruction, as any tourist can see for himself at Knossos today if he is reasonably observant and shuts his ears to the official patter of the guides.

Not that imagination is not an essential tool of the archaeologist. Consider the basic question of dating: when did the Minoan civilization begin, when did it end? Such questions had (and still have) to be answered without the help of a single dated Minoan document. The dating is therefore archaeological—that is to say, it is worked out by careful study of successive layers in the ruins, by marking datable objects imported from other societies, such as Egypt, and observing similarities between them and Cretan objects

HOLLE VERLAG, BADEN-BADEN

Like the other Minoan palaces, the palace at Phaistos (above) was situated on a fertile plain and was unprotected by fortifications. In contrast, a Mycenaean palace on the Greek mainland, at Tiryns in the Peloponnesus, was guarded by walls so massive that the classical Greeks, viewing its ruins, assumed them to be the work of giants. The Greeks of the mainland shared the Bronze Age culture of Crete—in a rather attenuated form—but the archaeological evidence indicates that they were more concerned with the problems of warfare than with the peaceful pursuits which were enjoyed on Crete.

HASSIA, PARIS

found in datable contexts elsewhere. To achieve even an approximation of the truth requires great sensitivity to stylistic minutiae and to craftsmanship, which Evans possessed to a very high degree. At best only an approximation will result: it is worth insisting on that just at present, when Cretan chronology is again being debated with a ferocity that is in inverse proportion to the certainty anyone can reasonably claim.

The Evans chronology can be set out in a table (as recently modified by R. W. Hutchinson, who from 1934 to 1947 was Curator of the Villa Ariadne, the headquarters Evans built at Knossos):

Early Minoan	I:	2500–2400 B.C.
	II:	2400–2100
	III:	2100–1950
Middle Minoan	I:	1950–1840 B.C.
	II:	1840–1750
	III:	1750–1550
Late Minoan	I:	1550–1450 B.C.
	II:	1450–1400
	III:	1400–1050

That the pattern is too neatly symmetrical is almost self-evident. It also has an empire-building note to it, for the scheme, worked out from the ruins at Knossos, was imperiously extended to the whole of Crete, though it is now certain that at least some of it will not work at all for other sites, such as Phaistos. And why should it? That the whole of Crete was monolithic in its culture and politics is a gratuitous (and now demonstrably false) assumption. However, once allowance is made for these defects, this is still in broad terms the most generally accepted chronology, with the Middle Minoan recognized as the great creative period and 1400 as the really terminal date. At that time there was massive destruction from which Minoan civilization never recovered. Late Minoan III was dismissed by Evans as a miserable "squatters' " world.

After "when," the next question is, of course, "who?" That there were migrations into Crete both before and during the Minoan period is beyond doubt. The last of them brought Greeks to the island. But before the Greeks, migrations of whom, from where? These are still fairly open questions to which we shall return shortly. Evans's most famous personal row was over the Greeks. There are unmistakable affinities and influences to be seen between the later Cretan palace art and architecture, and the great civilization then developing on the mainland of Greece (which we call Mycenaean). Evans naturally insisted that the originality and the priority were Cretan, and he nearly succeeded in destroying the career of a younger archaeologist, Alan Wace —eventually the chief authority on Mycenae—who challenged him (and who has since been proved to have been much nearer the truth).

The final verdict, it seemed reasonable to believe, lay locked in the undeciphered scripts, of which more were found than Evans had originally bargained for. When one considers how few different ways of writing man has invented in his entire history, it is astonishing that this small island of Crete should have produced at least two entirely on its own. There was a modified picture writing, which Evans called "hieroglyphic" on the analogy of the Egyptian script; there were two different, more advanced scripts (in which the individual signs stand for syllables), which he called Linear A and B, respectively; and on a small disk found at Phaistos, possibly an imported object, there was still another system of writing. They are all unique to Crete except Linear B, the use of which was more widespread on the mainland of Greece than in Crete itself, but they occur only in very short texts or in markings on sealstones and pottery and their brevity adds immeasurably to the difficulties of decipherment. It must be remembered that writing on perishable materials such as Egyptian papyrus—even if there had been any, which we do not know—would not have survived in the Cretan climate. Certain palace records were kept on small leaf-shaped clay tablets that were unbaked and discarded as soon as they were no longer needed. The destruction of the palaces was accompanied by great conflagrations, which accidentally baked whatever inscribed tablets happened to be on hand, and these alone have been recovered in modern excavations.

In 1952 a young British architect, Michael Ventris, announced after years of intensive work that the language of the tablets written in the Linear B script was an archaic form of Greek. This discovery immediately challenged, though in a tantalizing way, much of what had become the orthodox picture of Minoan civilization. It was now certain that the rulers at Knossos at the time of its destruction were Greek-speaking. But when had they arrived, in what numbers, and with what effect? The tablets carry no dates. Their contents are restricted to the prosaic minutiae of rations, flocks of sheep, inventories of palace goods, and the like. They confirm and elaborate the picture already suggested by the ruins themselves of a very centralized, bureaucratic, palace-run society, but they unfortunately contain no significant information about politics or foreign contacts. And thus far the Linear B script has not been found at any Cretan site other than Knossos. Does this mean that the conquest by speakers of Greek, for such it seems to have been, did not extend to the rest of the island? Perhaps—or perhaps we are being misled by chance, by archaeologists' luck.

Linear B is a script which developed from Linear A, but Ventris's success in reading it has not yet led to the decipherment of the latter. This is partly because the available texts are so few. Although Linear A tablets, unlike Linear B, have been found at a number of Cretan sites, the Linear B fragments from Knossos alone (excluding the mainland in

ANTIQUITIES KEEPER, ASHMOLEAN MUSEUM, OXFORD; LEFT: HIRMER VERLAG, MUNICH

Since its discovery in 1931, the Phaistos Disk has puzzled archaeologists, for its pictorial signs have no recognizable link to any other system of writing. Presumably, the disk came to Crete from abroad, possibly from Asia Minor. Some hieroglyphics were indigenous to Crete, however. A sealstone impression, above, shows the earliest form of Minoan writing, from which the syllabic script known as Linear A evolved.

this calculation) outnumber all known Linear A texts by about ten to one. But primarily the block is created by the fact that the language of the Linear A tablets is certainly not Greek and probably not any known tongue. Hard cryptographic work goes on steadily. Occasionally there is a spectacular announcement of a break, but each has proved to be a false alarm, so that it is still correct to say, as John Chadwick wrote in 1958: "we are forced to admit that further progress seems for the moment to be barred by the inadequacy of the material available." One conclusion, however, seems secure: the language of the Linear A script was that of the people who created the Minoan Golden Age, long before a Greek-speaking people came in to rule at Knossos in the final phase; and the syllabic writing was originally invented for that language and later transferred to Greek, to which it was not very well suited (just as cuneiform writing and the Phoenician alphabet were each employed for languages other than the original ones). And so the two old questions still remain unanswered: Who? When?

The tablets cannot answer the second question, not only because they give no dates but also because they are all the product of a single moment in time, the moment when a particular palace was burned. Thus we know that Linear B was in use in Knossos when it was destroyed, but not when the script was introduced there or how much it may have been modified over the years. We must still rely on archaeological dating. Although most archaeologists continue to accept Evans's chronological scheme in essence, at least for Knossos, it is nevertheless being strenuously challenged, chiefly by Professor Leonard Palmer of Oxford. His doubts began from the fact that where Linear B tablets have been found on the mainland, as at Pylos, under the same conditions as at Knossos (again thanks to a conflagration when the palaces were destroyed), the generally accepted date is about 1200 B.C. That is two hundred years later than Evans's date for the end of the great Minoan age, yet the

To decipher Linear B, the English architect Michael Ventris assigned a number to each of the symbols that appeared on the clay tablets the Minoans and Mycenaeans had used for writing. Each symbol seemed to represent a syllable, and some appeared more frequently than others. These, Ventris assumed, were inflected endings that indicated the case or gender of each word. On the hypothesis that the language of the tablets was an archaic form of Greek, akin to the Arcadian and Cypriot dialects spoken in classical times, Ventris arrived, after intricate analysis, at an interpretation for certain of the symbols that could be checked against the ideographs also shown on some of the tablets. The syllables he identified as ti-ri-po, *for example, stood next to a sketch of a three-legged caldron, which was called* tripos *in archaic Greek. Each of the symbols thus identified helped in the interpretation of other words. Acrimonious debate followed Ventris's decipherment of the script, but most scholars now accept his discovery, and would agree that the Linear B tablet shown at top records an offering of oil made to the gods. Linear A, seen on the tablet at right, has so far defied all attempts to decipher it. Most scholars believe that it records an earlier Cretan tongue not related to Greek.*

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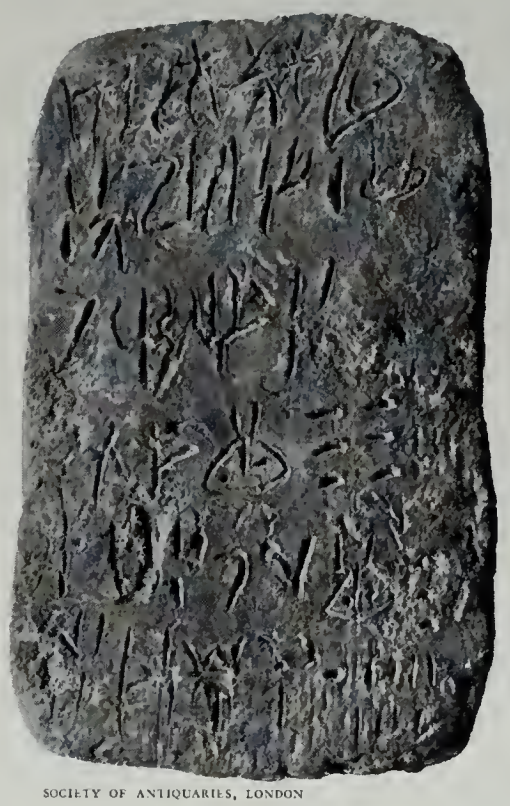


SOCIETY OF ANTIQUARIES, LONDON

language and general contents of the Knossos tablets are essentially indistinguishable from the mainland ones. The timing, Palmer argues, ought therefore to be about the same. From that simple foundation the argument has become very technical, very complicated, and very acrimonious. Evans's notebooks have been examined to check his published statements against the first impressions jotted down while the digging was going on. New efforts are being made to correlate and synchronize the Knossos remains with those on other sites, where, as has already been said, the neat Evans scheme does not apply except with drastic modifications. And the old, and in the end crucial, question of the precise relations between the two cultures, Cretan and mainland, is being reargued.

The violence of the polemic has not made it easier for the layman to grasp just what is at issue. One cannot simply shift the destruction at Knossos by two hundred years and leave it at that. If Palmer is right, then the whole chronology of the last great Minoan phase has to be modified, and along with that, our appreciation of the role of the new Greek element, both on the island and on the mainland. If he is right, then perhaps the Linear B script itself was a mainland invention, not a Cretan one. Then, too, Evans's picture of a long miserable squatters' period in Knossos would have to be abandoned, and we should have to think of the great wave of destruction of about 1200 B.C. on the mainland as extending to Crete as well.

To that extent Palmer's dating is an important challenge to the orthodox chronology. On the other hand there is no implication that the total picture of Minoan civilization, from its emergence out of the Neolithic three hundred or more years before 2000 B.C., has to be rejected. More is known today than Evans ever knew, and further knowledge inevitably means correction, elaboration, and refinement of the picture. But his achievement stands as one of the great monuments in the history of archaeology, and is all the more

remarkable because he began when the subject and its techniques were new and often crude. Any suggestion that Evans was incompetent or dishonest is as preposterous as the myth of his amateurism. It is easy to be clever and superior after someone else has done the back-breaking spadework.

What all parties to the newest dispute do agree on is the integral link between the pre-Greek stratum of the Cretan population and Asia Minor. Some of the evidence is linguistic (and again highly technical), as in pre-Greek place names like Knossos or Tylissos, and some is archaeological. But the most obvious is the omnipresent bull. On Cretan frescoes there are bulls everywhere, in several roles (but never as a deity or anything like the Minotaur, which must be a post-Minoan Greek invention). There are also the mysterious "horns of consecration," serving sometimes as a base in which the double axe was planted as a sort of standard, the combination possibly having some cult significance. Now the bull is also known in religious contexts from Asia Minor, associated with the Hittite weather-god, for example, and most sensationally in the discoveries made by James Mellaart, beginning in 1961, at Çatal Hüyük in the Konya Plain of south-central Asia Minor.* This is a neolithic site, the lowest level of which has been dated 6500 B.C. He found wall paintings not unlike the Stone Age cave paintings of eastern Spain, but also bulls' horns ceremoniously arranged in a way which is remarkably reminiscent of the Cretan "horns of consecration."

It is a long jump from Asia Minor in 6500 B.C. to Crete in 2000, but this new find, taken together with all the other known links, cannot be dismissed as meaningless coincidence. The essential point is that these are all links which suggest actual migration from Asia Minor to Crete at some time in the dim past, and not just a borrowing of ideas or institutions, which also went on all the time.

Clearly the rediscovery of Crete is still a very incomplete process. In 1961 the Greek archaeologist Nicholas Platon discovered a great labyrinthine palace, and in 1963 some Linear A tablets, near the village of Kato Zakro on the east coast.* This appears to be the fourth largest Cretan palace so far uncovered, after Knossos, Phaistos, and Mallia, yet a first-rate archaeologist, Evans's associate D. G. Hogarth, had dug there in 1901 and failed to find it, and no one knows its ancient name. On the mainland of Greece, at Thebes, building operations early in 1964 turned up the first Linear

* See HORIZON: September, 1962, pp. 10–13; November, 1963, pp. 66–67.

* An article on the Kato Zakro finds begins on page 76.

□ *Palace or royal villa*
A *Linear A tablets found*
B *Linear B tablets found*

Readily accessible from Africa, Asia, and Europe, Crete was once a crossroads of Mediterranean trade. We know very little about foreign influences on Crete, but recent finds in Asia Minor may indicate early cultural ties with that region, and it is certain that the Minoans traded with Egypt and Syria. The enlarged relief map of Crete opposite shows its difficult terrain. The major

B tablets to be found at that site, along with a number of datable Babylonian sealstones, at least one of them from the period 1375–1350 B.C. The plains of Asia Minor are covered with mounds like Çatal Hüyük, with limitless possibilities. Carbon-14 dating has already pushed the Cretan Neolithic Age back a thousand years, and it may someday provide a scientific answer to the later chronology. Chemical analysis of the clays and pigments of pottery will provide a new and reliable underpinning for stylistic analysis.

It seems inevitable that all these problems and proposals should stir up great dust clouds of publicity, claims and counterclaims being asserted with a certainty and acerbity they do not warrant. The chief harm done in the process is to draw attention away from the essentials to the ephemeral and to personalities. The essential, after all, is a major, in some ways attractive, lost civilization. While we wait for more certain answers to many questions (about origins, connections, dates), the art and the architecture, the technical achievements, the implications about how the society was organized, are there to be contemplated. So is the final catastrophe, whether it occurred in Crete in 1400 B.C. or in 1200 as on the Greek mainland. When the Greeks re-emerged in the full light of history several centuries later, they still spoke Greek, but they wrote in a new script and they had a wholly new way of life. That is why Minoan Crete and Mycenaean Greece are properly part of Greek *prehistory.*

M. I. Finley writes frequently for HORIZON *about life in the ancient world; in a forthcoming issue he will discuss some important new Etruscan discoveries. He is Reader in Ancient Social and Economic History at Cambridge University.*

For further reading: Prehistoric Crete *by R. W. Hutchinson (Penguin Books, 1963);* The Archaeology of Crete *by J. D. S. Pendlebury (Meuthen, 1939, 1964);* The Palaces of Crete *by J. W. Graham (Princeton University Press, 1962).*

With illustrations in color: Crete and Mycenae *by S. Marinatos and M. Hirmer (Hirmer Verlag, 1960);* Crete and Its Treasures *by O. Reverdin and R. G. Hoegler (Viking Press, 1961);* Crete and Early Greece *by F. Matz (Crown, 1962).*

For Leonard R. Palmer's views, his Mycenaeans and Minoans *(rev. ed., Knopf, 1962) and a technical presentation, with a defense of the traditional dating,* On the Knossus Tablets *by Palmer and John Boardman (Oxford, 1963). For Cyrus Gordon's views, his* Before the Bible *(Harper, 1963).*

palaces, though not many miles apart, may have been more isolated from one another than they were from trading posts on the continents. The British archaeologist J. D. S. Pendlebury, having made a tour of Crete on foot, concluded: "only those who have actually walked the mountains can tell how misleading a map may be. . . . Distances are useless. Times alone matter."

Kato Zakro: *A Rediscovered Palace*

A fourth great Minoan palace has been unearthed on the eastern tip of Crete, yielding many artistic treasures and new evidence about the Minoan doomsday

By NICHOLAS PLATON

Sir Arthur Evans brought to light early in this century the great Minoan palace of Crete at Knossos. Other archaeologists found palaces at Phaistos and Mallia, in addition to smaller royal abodes at Gournia and Hagia Triada. Although Evans and his colleagues did their utmost to reconstruct and interpret the brilliant civilization which they had discovered, it has in many ways remained an enigma. Now a fourth great palace of the Minoan age has been found at Kato Zakro, at the eastern end of Crete. From any viewpoint it is an exceptional and exciting discovery. The art treasures and the artifacts found in the ruins rival those of Knossos in number and beauty. Moreover, Kato Zakro—unlike its sister palaces—had never been plundered. Every object lies as it fell on the day of its destruction, sometime around 1450 B.C. And if this were not enough, the palace has also yielded important new archives of Linear A tablets (the still undeciphered Minoan language), as well as new evidence about how Minoan civilization came to an end.

A long and painstaking search preceded the discovery of the palace. The village of Zakro, on the Isthmus of Hierapetra, is situated on an excellent harbor. It would have been an ideal port for ships plying the trade routes from Crete to Egypt, Cyprus, and the Middle East. The Minoans were enterprising traders, and there was every reason to think they had settled in this area during the golden days of Minoan history, especially from 1600 to 1400 B.C. In 1901 the explorations of W. D. Hogarth, an Englishman, proved that there had been extensive settlements on the hills south of the bay. Just before World War II a private collector in Heraklion acquired a small treasure of gold, consisting of a diadem (above), a pendant in the shape of a bull's head (see page 79), and a goblet decorated with spirals; it was believed to have been found at Kato Zakro. Our own excavations there, begun in 1961, revealed some villas, sanctuaries, and cemeteries. The quality of the small objects and of the pottery we found betrayed the presence of royal workshops. What was missing, however, was the palace itself.

In the first season we were able to determine where it must have stood. Our work in the four succeeding years has confirmed our hypothesis and has revealed the palace

The gold diadem above was one of the early finds that led to the discovery of the new palace. At its center a female subduing two beasts is flanked by goats and octopuses. On the larger of the two vases opposite is represented a Minoan sanctuary with a spiral-decorated entrance and four goats on the roof. The other vase, rock crystal with an ornamental collar and a crystal-bead handle, is unlike anything found in Crete before.

COLOR PHOTOGRAPHS FOR HORIZON BY DIMITRIOS HARISIADIS; BLACK AND WHITE PHOTOGRAPHS ARE BY C. NIEMEYER

in all its ruined splendor—the spacious courts, royal quarters, shrine rooms, archives, workshops, and storerooms, generally with their contents in place. The area of the palace is about one and three-quarter acres, half of which we have uncovered.

Our good luck in finding the palace unplundered is due entirely to the swiftness of the misfortune which overtook its inhabitants. They must have had no time to gather up their possessions as they fled, and the destruction was so terrible that no one could return to the ruins. We have reason to believe that the disaster was volcanic in origin. According to the theory of Spiridon Marinatos, about 1450 B.C. the volcanic island of Santorini (ancient Thera) exploded with such violence that two-thirds of it sank into the sea. Crete, some seventy miles to the south, was shaken by earthquakes, and its shores were raked by tidal waves. Volcanic ash and other debris must have been hurled over a huge area around Thera, and indeed we have found pieces of such material in the palace ruins. The upper stories of the palace collapsed in the earthquake; we found the beautifully hewn stones of the façades toppled into the courtyards. Ironically enough, the wooden crossbeams that had been used throughout the palace to ensure resiliency during tremors caught fire, and the conflagration was soon fed by the contents of the storerooms, particularly the supplies of olive oil.

The palace is located on a flat strip of land thickly planted with olive groves, banana trees, and vineyards. The sea lies some four hundred yards away. We know that the coastline of eastern Crete has sunk since antiquity, so that in Minoan times there would have been wide beaches. Hundreds of small craft could have been drawn up on the shore or moored in the shallow waters. Even today the harbor is dotted with sponge boats stopping off between the Dodecanes and Libya. The hills surrounding the palace site are rugged and implacable, split only by a deep ravine we have called the "Gorge of the Dead." Here in innumerable small caves the Minoans buried their dead, often with rich offerings. Many of the graves date back as far as the third millennium B.C. In one of these we found a small carved box that must have belonged to one of the first inhabitants of this attractive valley.

So complex is the palace and so numerous its contents that they are difficult to describe. Some of the most beautiful objects are illustrated on these pages. We have already found more than two thousand clay vessels, most of them richly decorated. One storeroom contained four Syrian elephant tusks and six heavy bronze talents, units of measure. Innumerable small objects have come to light—ornaments, inlaid ivory boxes, faïence vases, two golden double axes (religious symbols for the Minoans), and extraordinary numbers of bronze tools. Two large saws found on the floor of the main room give the impression that general repairs were under way when catastrophe struck. We have thus far excavated fifty of some one hundred and eighty rooms. As we open up more of them, we can surely expect to uncover many more splendid works of art, perhaps frescoes, and much new evidence about life in Minoan Crete.

Dr. Platon, a leading Greek archaeologist, is Director of the Acropolis Museum and Inspector of Antiquities for Crete. His expedition to Kato Zakro, under the aegis of the Greek Archaeological Service, is supported by the Archaeological Society of Athens and, in large part, by Mr. and Mrs. Leon Pomerance of Great Neck, Long Island. One winter afternoon in 1961 Mr. Pomerance happened to read an article by Dr. Platon stating that there were important sites yet to be explored in Crete but no funds with which to do so. An amateur of archaeology, Mr. Pomerance immediately offered his help, and the next summer he and his wife joined the expedition. Though this is their first venture into such spadework, they have for years been devoted collectors of ancient art. (Everything found at Kato Zakro goes into the museum at Heraklion.)

Along with items of grand luxe, *the palace site held many common tools such as the wine press above. It was easy to use: grapes were trampled in the upper vessel and the juice ran down the spout into the barrel. The gold bull's head, a pendant, was found some years ago, with the diadem on page 76.*

The bull's head opposite, carved of steatite, was found in pieces in the main hall of the palace. It is actually a rhyton, or libation vase, which was used on ceremonial occasions.

GEORGE HOLTON—PHOTO RESEARCHERS

"A CLUSTER OF SOAP BUBBLES"

So Théophile Gautier described the decoration of the Alhambra. Yet in spite of its fragility, it has survived many a more substantial palace, and lastingly evokes a setting for The Arabian Nights

By MARY CABLE

Of a man with a sad and pensive air, North African Arabs say, "he is thinking of Granada." The Arabs lost Granada in the year that Columbus discovered America. but still, so it is said, there are Moslem families in North Africa who keep two door keys, one of which is five centuries old and was made for a lock far away across the Strait of Gibraltar. The last Arab ruler of Granada, Mohammed XI—or Boabdil, as he is known in European annals—was not even allowed to keep his keys; that is to say, the keys of his palace, the Alhambra. On January 2, 1492, he turned them over to his conquerors, King Ferdinand and Queen Isabella, and left by way of a southward mountain road, pausing, for one tear-dimmed look backward, at a point that has ever since been called "The Last Sigh of the Moor." Boabdil's people called him "the poor devil," a name that reveals a certain sympathy for a man whose lost palace compared very favorably with the Koran's description of paradise. A medieval Arab writer once remarked that the Alhambra was too much like paradise and that, therefore, Allah had been obliged to curse it. The curse was that of continual internecine quarreling and bloodshed, and these things eventually brought about the downfall of the dynasty that built it.

During the two and a half centuries of its heyday as the residence of the Nasrid kings of Granada, the Alhambra was without doubt the most elegant, sophisticated, and beautiful dwelling in all the Western world. Writers who have tried to describe it have nearly always lapsed into hyperbole. For example, "Something voluptuous, religious, warlike seemed to emanate from this magnificent edifice," said Chateaubriand in a silly story called *The Adventures of the Last Abencerrage;* "a kind of cloister of love, a mysterious retreat where the Moorish kings tasted all the pleasures and forgot all the duties of life." And Washington Irving: "Everything invites to that indolent repose, the bliss of southern climes; and while the half-shut eye looks out from shaded balconies upon the glittering landscape, the ear is lulled by the rustling of groves and the murmur of running streams."

But to get down to earth, the name "Alhambra" refers to a complex of buildings on top of a hill, called the Sabika, that rises like an acropolis in the midst of the city of Granada. This complex has three distinct components. First, a fortress, the Alcazaba, which predates the rest, its oldest tower having been built in the ninth century. The rubble at its base includes a piece of a votive altar ("The grateful Valens to his most indulgent wife, Cornelia"), showing that the Romans were there, too. Second, a servants' area, now largely torn down; and, third, a residence. This residence, which is the beautiful part of the Alhambra, is itself divided according to customary palace planning in the Near East. The main outer gate is called the Gate of Justice, the area in front of palace gates being the traditional seat of justice among the Moslems. Next comes the throne room and other halls and courtyards for official entertaining, and then the king's private quarters and the harem, with windows overlooking the sheerest descent of the hill.

Behind the stately Court of Myrtles rises the Torre de Comares, tallest building of the Alhambra

In the near distance, poised on a higher hilltop, is a summer pleasure dome, the Generalife; and, on the horizon, the splendid summits of the Sierra Nevada. The views from the Alhambra must be counted as part of its glory: mountains in one direction, and elsewhere a rich plain that is flowery in spring, green in summer, and golden in fall and winter. The white villas dotted here and there reminded a medieval Arab poet of "Oriental pearls set in a cup of emerald." Théophile Gautier, who lived for several months in Granada in the 1840's, wrote, describing a sunset: "The mountains sparkle like vast heaps of rubies, topazes, and carbuncles; the spaces between are filled with a golden dust, and if, as often occurs in summer, the peasants are burning straw in the plain, the wisps of smoke which slowly rise heavenward are colored by the rays of the setting sun with exquisite tints."

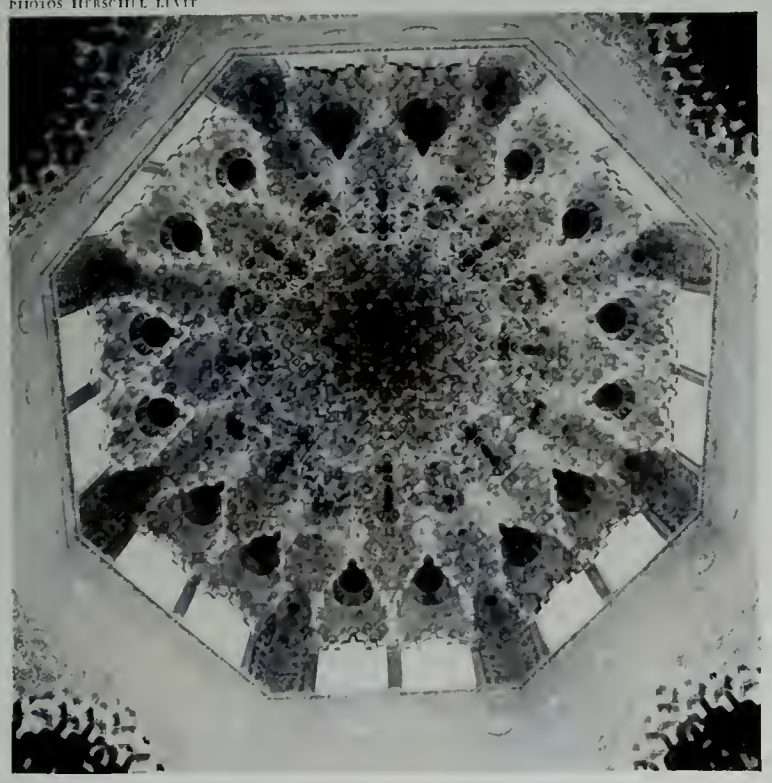
The assets of Granada's site were probably first recognized by cave men, and by the time the Romans arrived in Andalusia, in the third century B.C., they found a well-inhabited country that had been settled first by Ibero-Celts and then by Carthaginians. In due course Roman colonists were succeeded by Visigoths. Then, early in the eighth century, came violent new conquerors, the Arabs, and with them that indigenous North African people, the Berbers, whom the Arabs had converted to Islam and who had become more fanatical evangelists than the Arabs themselves.

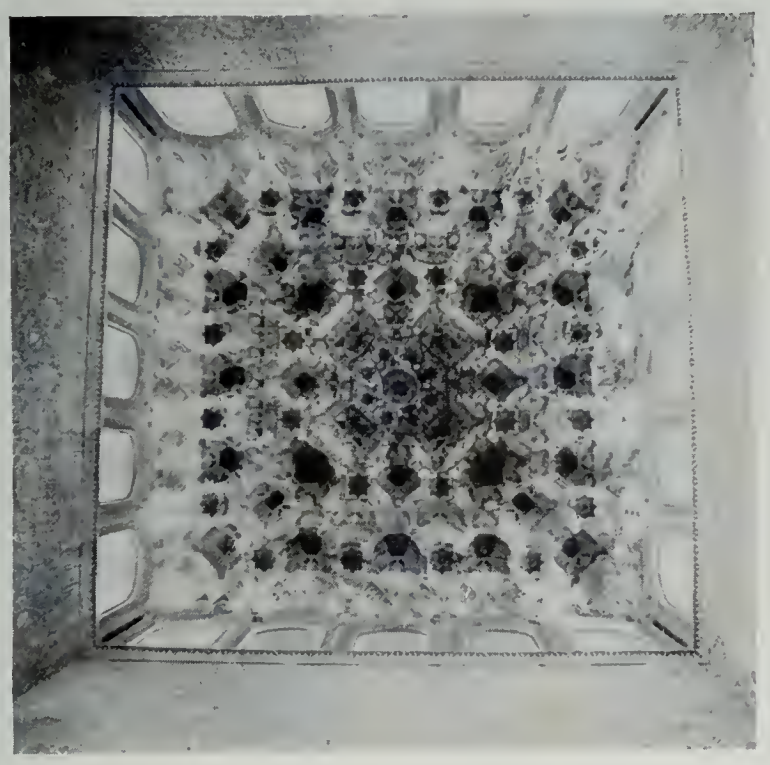
Visigothic society in Spain was corrupt and chaotic, consisting of a few rich landowners and hordes of discontented serfs. About a third of the Andalusian population was Jewish, descendants of families dispersed from Jerusalem in the days of Hadrian (himself an Andalusian). The Jews preferred the more tolerant and sophisticated rule of the Arabs to that of the cloddish Visigoths and gladly abetted the new arrivals. On the site of modern Granada there was a Jewish town called Garnatha Alyehud, and the name "Granada" is thought to derive from this.

The people from the deserts of North Africa and the Near East were delighted by the green, watery country in which they now found themselves and urged their relatives at home to join them. In successive waves they came, the flood tide reaching as far north as Poitiers, in southern France, where it was finally turned back by Charles Martel in 732. The Arabs, or Moors, to use the usual term for North Africans in Spain, held power in the Spanish peninsula for nearly eight centuries (the Roman Empire was far less durable). But for most of that time they ruled only over the south, al-Andalus, and made it the richest and most intellectual region in Europe. Toward the end of the eleventh century a Berber potentate who had been invited to Spain by the caliph of Seville to help in the wars against the Christians turned on the caliph and captured Granada and other important cities. In 1238 an independent Arab leader named Mohammed al-Ahmar (Mohammed "the Red") took Granada from the

HERSCHEL LEVIT; BELOW: DOMINGUEZ—MUSEUM OF THE ALHAMBRA

PHOTOS HERSCHEL LEVIT





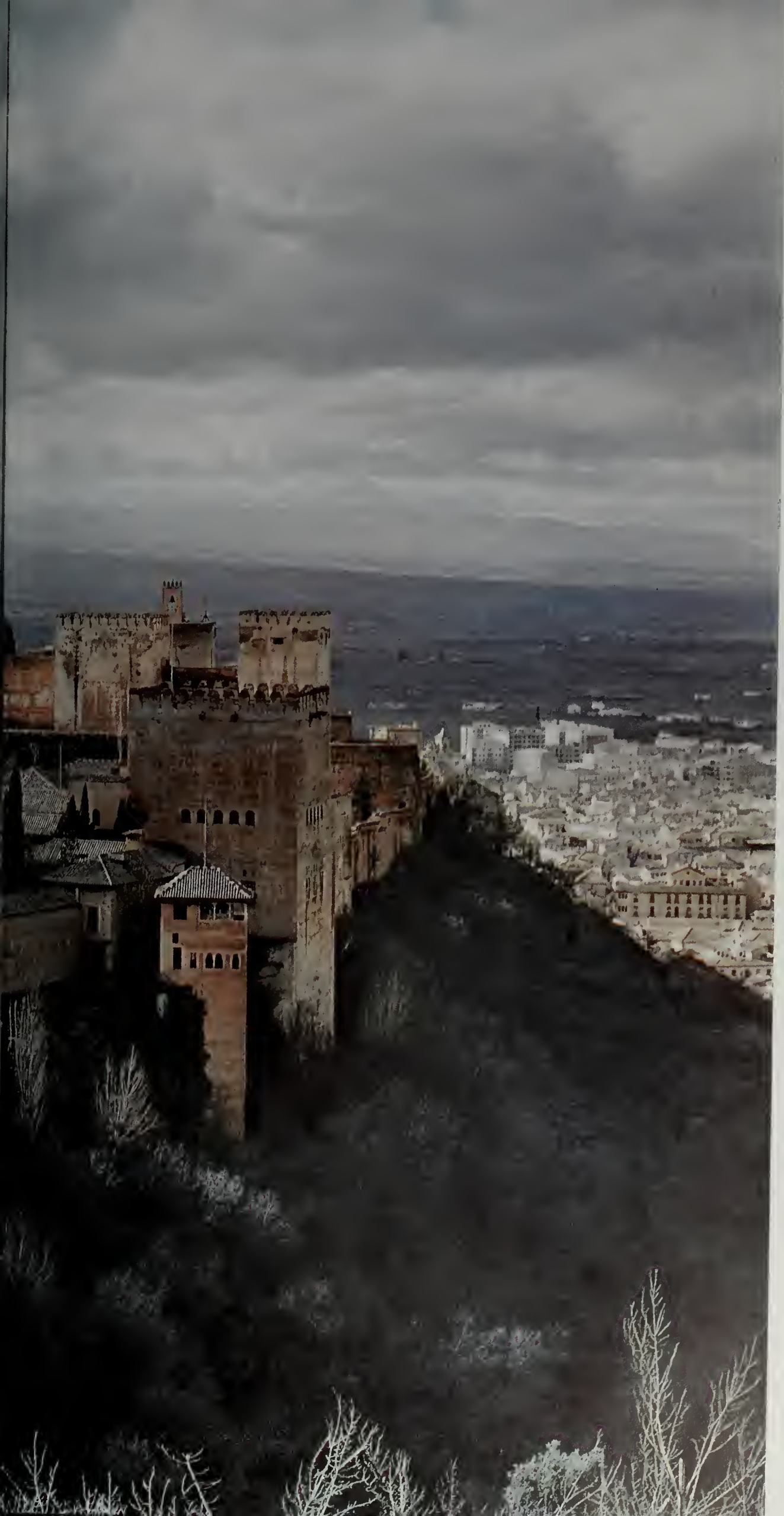
Colored tiles, geometric decorations in stucco, and honeycomb vaulting (opposite above) occur over and over again in the Alhambra in a wealth of variations. The two most magnificent domes in the palace are shown above, but their greatest splendor—the continuously changing effects of light from dawn to dusk—eludes the camera. "The Alhambra Vase" (opposite), more than four feet tall, is the finest extant example of the blue pottery of Moorish Granada. A matching piece was sold, in the last century, to a passing traveler.

Berbers. He founded his own line of rulers, the Nasrid dynasty. Twenty kings and two and a half centuries later, this dynasty came to an end with the hapless Boabdil.

It was al-Ahmar who began to build the Alhambra. The name is thought to derive from the Arabic *kala hamra* (red castle), and refers either to its builder's nickname or to the reddish color of its bricks. A more poetic theory is that the flickering of torchlight during night construction work gave rise to the name "the Red." Most of what we see today was the work of two of al-Ahmar's descendants, Yusuf I and his son Mohammed V, who ruled in the fourteenth century. The palace has no architectural unity, but consists of a series of halls and courtyards that were built as they were needed or wanted. Each is inward-turning, self-absorbed, and self-sufficient. The views that so inspire the modern visitor's admiration were in Moorish days chiefly left to the sentries—or, perhaps (one's imagination runs wild in a place like this), to captured Christian maidens scanning the horizon for signs of rescuing armies. The ruler and his courtiers liked to keep aloof from the outside world, secluded in their exquisitely proportioned courtyards and chambers. "Hail, thou, welcome, joyful fabric," cries an Arab poet, addressing the Alhambra. "All men are in awe of thy filigreed tissue, like the tissue of Spring when the rain falls."

The walls looked to Gautier (who was allowed to live in the palace for a few days) like "plaster embroidery," and the delicate honeycomb moldings like "a cluster of soap bubbles which children blow with a straw," and, in fact, much of the Alhambra is not a great deal more substantial than that, being made of nothing more enduring than stucco on top of a reed scaffolding. These Moorish sojourners in an ever-encroaching hostile land did not build for the future, and would no doubt be astonished to find that their playful fancies have outlasted parts of the solid and seemingly unbudgeable fortress that shares the same hill. For the Alhambra's preservation we have to thank the Catholic sovereigns of Spain, most of whom kept it in decent repair. Charles V was the only one who actively disliked the place ("the ugly abomination of the Moors," he called it); and he tore down part of it to make room for a grandiose Renaissance palace for himself. This was never finished, and stands there today, forlorn and roofless. It is a monument to poor judgment—blameless in its way, but totally out-of-place, like a dinner guest who has come in black tie when the invitation said fancy dress.

The Moors disapproved of representational art, and the Alhambra is chiefly adorned with geometric designs in a wealth of variation. The Hall of the Kings has painted ceilings that show scenes of court life, and the Patio de los Leones takes its name from twelve stone lions guarding its central fountain—but these heresies were the result of frivolous Christian influences. The lions are believed to have been the work of Christian captives, while the ceilings have been ascribed by some to a Christian artist of the fourteenth century. In-



This is the Alhambra seen from the gardens of its neighboring pleasure dome, the Generalife. At the extreme left is St. Mary's, a seventeenth-century church built on the site of a mosque; to the right is the unfinished palace of Charles V. The cluster of squarish towers and low buildings in the center foreground is the Alhambra proper. In the distance are the arid hills through which, in 1492, the defeated Moors made their sorrowful way toward Africa.

scriptions in Arabic or Kufic characters are integral with the stucco decoration. To those of us who cannot read them, they look merely decorative, but a student of the language finds that they are either verses from the Koran or poems in praise of the architecture and the sultans.

Look upon this wonderful cupola, at sight of whose perfection all other domes must pale and disappear. / To which the Constellation of the Twins extends the hand of salutation; and, for communion, the Full Moon deserts her station in heavens.

I am the garden, and every morn am I revealed in new beauty. Observe attentively how I am adorned, and thou wilt reap the benefit of a commentary on decoration.

Interspersed with all these high-flying sentiments is the grave reminder, repeated over and over on every wall, "Only God is Conqueror."

"How poor and wretched our lives would be if our hopes were not so high and great," said the first Nasrid king, al-Ahmar. The world in which he built his pleasure dome was dark and menacing. A realist, al-Ahmar bought peace for his kingdom by going in person to the Christian king of Castile, Ferdinand III, and becoming his vassal, even though this meant providing Moslem troops to fight King Ferdinand's Moslem enemies. In spite of the basic mortal enmity between Christian and Moor in Spain, considerable intercourse existed. Al-Ahmar's subjects adopted certain Christian styles of dress and of arms, and the Christians provided an enthusiastic market for the crafts of Granada, such as magnificent textiles, carpets, tooled leather, carved ivory, inlaid woods, and wrought metals. Sometimes there were even voluntary marriages between Christians and Moslems, including arranged royal matches.

"The women of Granada," says ibn al-Khatīb, a fourteenth-century chronicler, "are graceful, elegant, and svelte; it is rare to find one who is ill-proportioned. They are neat, take great pains to arrange their long hair . . . Their charms are highlighted by their graceful manners, exquisite discretion and delightful conversation. It is regrettable, however, that we are reaching a moment in which the women of Granada are carrying the magnificence of their attire and adornment to the brink of fantasy." Every generation has its scolds and misanthropes, particularly on the subject of women's dress; nevertheless, there was probably an air of reckless abandon about Granadine society, for it was a doomed one and realized it. Al-Ahmar used his dearly bought peace to improve the prosperity of his country, and it became so rich that it was reputed to have discovered the secret of turning base metal into gold. Neighboring Christians, eyeing its rich industries and fruitful countryside, became more zealous than ever in their efforts to save its infidel soul.

Al-Ahmar lived to be seventy-nine, and left a thriving kingdom. Of his twenty successors the most distinguished was Yusuf I (1333–1354), a cultured and chivalrous king who ruled his subjects wisely, fended off the Christians, and

PHOTOGRAPH BY WIM SWAAN, REPRODUCED FROM *Moorish Spain* BY ENRICO SORDO BY PERMISSION OF ELEK BOOKS, LTD. (PUBLISHED IN THE U.S. BY CROWN PUBLISHERS, INC.)

FOTO MAS; OVERLEAF: PHOTOGRAPH BY EVELYN HOFER, REPRODUCED FROM *The Presence of Spain* BY JAMES MORRIS BY PERMISSION OF HARCOURT, BRACE & WORLD, INC.

Little representational art is to be found in the Alhambra, but in one of the private royal apartments the ceilings are adorned with lively scenes of contemporary life (above) and with figures thought to be the first ten sultans of the Nasrid dynasty (detail opposite). These paintings, the work of an anonymous artist of the late fourteenth or early fifteenth century, were done on gesso over leather-covered wood.

OVERLEAF: *Here in the Patio de los Leones the sultan and his concubines used to take their ease; and here Washington Irving, who made the Alhambra his private hotel, used to take his breakfast. Some twenty years before Irving, Napoleon's troops, thinking no doubt to improve the place, tore up a handsome tile pavement and planted parterres in the French taste. These, in turn, have been replaced by pebble mosaic. The slender marble columns, whose tops branch into arches, are believed to have been inspired by fondly remembered palm groves in North African oases.*

established the University of Granada, over whose gates he wrote, "The world is supported by four things only: the learning of the wise, the justice of the great, the prayers of the righteous and the valor of the brave." Yusuf also found time to build the most beautiful parts of the Alhambra: notably, the Hall of the Ambassadors and the Hall of the Two Sisters. Expert engineering, begun by al-Ahmar, brought an abundance of water to the heights of the Alhambra, and the murmuring of fountains mingled delightfully with the songs of birds and the rustling of foliage. Perhaps it was this continuity of sound, coupled with the repetitious style of decoration, that gave the palace its strange feeling of timelessness. As in paradise, there were never any abrupt transitions; one lived there shut off from the world, the light filtering in through lattices and stained glass or falling obliquely into courtyards. Each room, each court, with its airy and fragile arches, was an end in itself. And, in a hundred variations of wording, the poetical inscriptions said, in effect, "This is perfection; why seek further?" No wonder that a worldly and pragmatic soul like Charles V could see no point in the Alhambra.

But, despite its languid and sensuous atmosphere, the palace was anything but tranquil. Twenty-one rulers in 254 years means an average of one about every twelve years. Since both al-Ahmar and Yusuf I had comfortably long reigns of forty-one and twenty-one years respectively, it can be seen without further research that many other monarchs must have left the throne through unnatural causes. These medieval Moors, who loved poetry and learning, who studied Aristotle and Euclid, whose knowledge of geography influenced Columbus, and whose advances in medicine laid the foundations of surgery in Europe, were nevertheless often bloodthirsty, cruel, and vicious. Whether they were more so than their Christian brethren of the same period it is hard to say, but theirs was a civilization literally backed into a corner, and perhaps that gave them less time for the amenities. An often-told story about the Alhambra concerns the wholesale murder of thirty-six young men of a noble Granadine family, the Abencerrages, whom the king suspected of treason and therefore summoned, one by one, to be beheaded. (The guides who show tourists the Hall of Abencerrages point out, as evidence, reddish stains on the marble fountain.) Only one Abencerrage was warned and managed to escape.

The struggles of the Nasrid kings and their relatives are too confusing and too obscure to retell here. It is pleasanter to reflect that in spite of the most lethal quarrels, there was also a great deal of singing, dancing, and partying in these sequestered courts; also, a great deal of *tarab*. *Tarab* is a kind of physical reaction to pleasures of the mind and spirit —thus, the recitation of a particularly delightful poem might cause the listeners to faint, foam at the mouth, tear their clothes, or beat their heads against the wall. A modern Spanish writer, Emilio García Gómez, has commented, "The loss

of this capacity for great physical emotion—even in its less violent forms—seems to me to show a present-day lack of sensitivity. If any trace of *tarab* remains, it must be sought at the bullfight or at other sporting events. But no . . . the *olé* of the *canto hondo* is still the *wallah* ('O God!') with which the Arabs cheered every poetic recitation."

Northern Europeans, whose *tarab* is confined to a polite patting of the hands together or perhaps an occasional rusty "bravo" at the opera, are usually embarrassed by demonstrations of emotion. Yet the sensuous south, the home of emotional excess, has always held a strange fascination for them; and over the centuries that followed the defeat and departure of the Moors, the Alhambra became a favorite of travelers, both armchair and actual. After Ferdinand and Isabella took it over from Boabdil, Granada ceased to be a royal capital. The treaty of 1492 was remarkably lenient with the Moors and permitted them to stay in Granada without religious oppression. But this treaty was soon violated. In 1556 the fanatical Philip II ordered the Moors who remained in Andalusia to give up their language, religion, and manner of life. During the next one hundred and fifty years all Moslems were either executed or expelled from Spain—about three million of them—and al-Andalus became the conspicuous exception to the historical fact that wherever Arabs established their civilization they remained. Granada became a Christian city and the Alhambra a little-used summer palace of the Spanish royal family. In the early eighteenth century several rooms were refurbished for the honeymoon of Philip V and his bride, Elizabeth of Parma; but, in the main, the palace drowsed through the centuries, inhabited only by caretakers and their relatives. The relatives proliferated so that the palace was like a little town; but, being there on sufferance of the governor of Granada, they behaved in a circumspect manner, and if they planted cabbages in the royal flower beds, they were careful to leave the roses.

The only war to disturb Granada in the post-Moorish era was Napoleon's Spanish campaign. Fortunately, the Romantic Age was in full flower, and the occupying forces—first the French and then the English—were respectful of antiquity. The French, although they blew up two of the most ancient towers of the fortress when they departed, did some restoration work on some of the more fragile stuccoes; the English, under the Duke of Wellington, planted English elms on the slopes outside the walls, and it is through this charming old wood that the modern tourist ascends to do his sight-seeing. (In the days of the Moors the slopes, for defensive reasons, were bare of trees, and were largely given over to a cemetery.)

One spring day in 1829 a well-dressed gentleman tourist, traveling on horseback, arrived before the plains of Granada, as Ferdinand and Isabella and al-Ahmar and the Visigoths, Romans, Carthaginians, and Ibero-Celts had arrived before

The complex of massive fortifications opposite, called the Alcazaba, guards the delicate palace. We are on the highest watchtower, the Torre de la Vela, where the banner of Castile was raised for the first time on the morning of January 2, 1492. Ferdinand and Isabella, who had waited for this moment all their lives, saw the banner from the plain below.

him. "The day was without a cloud. The heat of the sun was tempered by cool breezes from the mountains. . . . In the distance was romantic Granada surmounted by the ruddy towers of the Alhambra, while far above it the snowy summits of the Sierra Nevada shone like silver." Like his predecessors, Washington Irving decided to stay here as long as possible. Possessed of a charming personality and polished manners, as well as of the right letters of introduction, he was invited by the governor to make himself at home in the Alhambra. And there he stayed for several months. "My meals are made wherever caprice dictates," he wrote, "sometimes in one of the Moorish halls, sometimes under the arcades of the Court of Lions, surrounded by flowers and fountains." One night he scared himself half to death by sleeping in the long-empty apartments of Elizabeth of Parma, where he heard "stifled shrieks and inarticulate ravings." These turned out to be the cries of an insane relative of the concierge. And one sunny afternoon, while strolling about the ramparts, he came upon a peasant "maneuvering two or three fishing rods, as though he were angling for the stars." He was catching swallows and martlets, "with hooks baited with flies."

The book that Irving wrote about his experiences, *Tales of the Alhambra,* was on every nineteenth-century parlor table, and many other eminent writers made Granada a point of pilgrimage and of literary effusion. Thus, the Alhambra entered its third and final phase: a symbol of a world too beautiful and romantic to exist, but ah! if it only could! A replica of the Court of Lions was a feature of the Crystal Palace Exhibition of 1851; businessmen adorned the drab walls of their offices with "The Court of the Myrtles," "The Garden of Linderaja," and so on, painstakingly rendered in steel engravings; the Alhambra influence erupted in all sorts of unexpected places—for example, in Cincinnati, where an exotic-looking shop called Trollope's Bazaar was a careful imitation of Alhambra architecture. But, as one nineteenth-century English traveler pointed out, the Alhambra was "peculiar to its society," and could be neither imitated nor rivaled.

And now the days when a tourist could set up housekeeping there are over; now you can only trail meekly through on a guided tour, without benefit of moonlight, nightingales, or even "stifled shrieks and inarticulate ravings." But if the crowd isn't too great, you may be allowed to pause upon the ramparts and look at the Sierra Nevada. It still shines like silver, just as it did for Washington Irving and for al-Ahmar.

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GIOTTO AND DUCCIO

In the work of these two great artists Western painting reached the climax of an ancient tradition and the radical beginnings of another that would endure for six centuries

BLACK AND WHITE ILLUSTRATIONS ALINARI

The frescoes by Giotto that completely cover the walls of the Arena Chapel at Padua (right) have been termed "the noblest cycle of pictures known to Christian art." Consisting of some three dozen individual subjects, they are the best preserved of this revolutionary artist's work. The scene of Enrico Scrovegni presenting a model of the chapel to emissaries of the Lord (detail left) is from the Last Judgment, painted beneath the window on the entrance wall of the structure (upper right). The donor of the gift is placed among the blessed, to the left of the cross separating them from the damned, who are to the right.

By JOHN CANADAY

If the most decisive moment in the history of Western painting had to be pinpointed to one day and one place, it could be the day in Padua some six hundred and sixty years ago when Giotto di Bondone rinsed out his brushes and took a last look around at the cycle of frescoes he had just completed for a chapel intended to salvage the soul of a usurer—or, at the very least, to amend his earthly reputation. The donor of the chapel was Enrico degli Scrovegni, whose father's evil reputation led Dante, a contemporary, to consign him to the seventh circle of Hell. Pelted by fiery earth, steamed by hot vapors, "their grief gushing from their eyes," as told in the *Inferno*, notorious usurers were identified by the coats of arms on the moneybags hung around their necks as the badges of their sin.

Some such vision of old Scrovegni's damnation must have haunted his son. In the lower section of the fresco on the chapel's entrance wall, where the Last Judgment is pictured, Giotto makes clear that the building is a placative gift. Enrico is shown offering it, in the form of a model, to three haloed emissaries of the Lord (see opposite). He kneels before them with one hand supporting the model (most of the weight being held on the shoulder of an attendant priest), while his other hand is raised reverently and with awe, hesitantly, toward a saintly hand extended in acceptance and on the point of touching his.

It is a grave and impressive scene typical of the dramatic power in Giotto's selection of revelatory attitudes. The saints are nobly erect, their heads slightly inclined toward the supplicant with a combination of majesty and compassionate recognition that befits their role as couriers between the earthly realm and the celestial one they have attained, while Enrico kneels in full humility without loss of dignity.

At a time when painters had mastered only a few repetitious formulas for facial expressions, Giotto made of Enrico's head not only a portrait that we are safe in accepting as an accurate one but a full revelation of a complex emotional state. Enrico is at the moment of realization, the awesome moment when his fears for his temerity, his fears that his gift might be rejected, are about to be dissipated by the joy of learning that it is acceptable. Yet we feel that in this joy, too, he will remain reverently self-contained.

Giotto was able to depict this scene with all its psychological interplay despite the technical difficulties besetting an artist who was still feeling his way toward the representation of forms of monumental character in combinations and from angles of vision that painters had never before presented realistically. His technical failures are as obvious as they are unimportant. Enrico's far hand and wrist seem to grow from his near arm; his near leg seems to have been amputated at the point where the knee rests on the ground; there appears to be no room behind the model of the chapel for the lower body of the nearest saint. There are other awkwardnesses, including the inaccurate perspective of the miniature building.

These are technical shortcomings of a kind that remained unmastered for another hundred years, but they are only technical. There was nothing that Giotto would not try, nothing that he would not dare. He abandoned the safe conventions of a limited catalogue of formulas for drawing and cast his figures in the dramatic compositions that revolutionized not only techniques but the whole spirit of painting. If ever a soul was granted the privilege of ransom from Hell, this soul must have been Scrovegni's, for the history of painting holds no nobler monument than these frescoes—not even Michelangelo's cycle on the ceiling of the Sistine Chapel.

The Scrovegni Chapel—more commonly called the Arena Chapel because it was built on the site of an ancient Roman arena—was consecrated on March 16, 1305, and presumably Giotto began work on the frescoes shortly thereafter. The building itself is without architectural distinction, even though Giotto may have designed it. Little more than a shedlike structure of brick about sixty-eight feet long, it is roofed by a barrel vault, illuminated from one side by six long narrow windows, and terminated by an apse of routine character. But the side walls are lined with Giotto's thirty-eight scenes from the lives of Joachim and Anna, the Virgin, and Christ. The incidents in the story, of course, had been portrayed hundreds of times. But Giotto recast them in an interpretation that raised painting to the supreme position among the arts. Henceforth it was to be the medium for the most profound expression of human aspiration, of the sustaining hope that life on earth is a purposeful affair, subject to divine authority and divine mercy.

Such breadth and depth of human declaration had always been, primarily, the function of architecture. The temples of the ancient world and the cathedrals of the Middle Ages had summarized man's ideas about himself and his gods, with sculpture as a powerful corollary and painting as a decorative and a didactic element. But with Giotto all this changed—not because he set out to change it, but because as a painter he became the instrument of change. The fact that the Arena Chapel is little more than a shell providing walls for the frescoes becomes symbolic. And in 1334 Giotto was appointed head of the cathedral workshop in Florence—the first painter to receive an honor that was, in addition, a major civic responsibility. For although he was also an architect and a sculptor, Giotto was first of all a painter. The great ages of painting had begun.

Painting became, as it had never been before, the summarizing art, and remained so—despite the creations of such architects as Brunelleschi and of such sculptors as Donatello—until Michelangelo completed his ceiling in the Sistine Chapel in 1512. Within the two centuries bounded by the supreme pictorial cycles of Giotto and Michelangelo are included the only others that can stand in their company—Masaccio's in Florence, cut short by his death; Piero della Francesca's in Arezzo; perhaps the courtier Raphael's in the Vatican. In the different temper of the north there are such great achievements as the Van Eycks' Ghent Altarpiece and Grünewald's Isenheim Altarpiece, as well as a staggering quantity of individual paint-

ings, both north and south, that explored the world, the mind, and the spirit in pictures that are lesser only because their physical dimensions preclude the wider statement of the cycles.

In the centuries that followed, sculpture and architecture resumed larger importance in the shifting balance of the trinity of arts. But Giotto had initiated a course that painting followed, albeit with a thousand variations, for fully six hundred years, a course that was not really interrupted until the radical innovations of the twentieth century—or, at the earliest, those of Cézanne. There is, in truth, a parallel between Giotto and Cézanne as innovators. Cézanne is the link between the tradition of Giotto and the disruptive force of cubism, just as Giotto is the link between the Middle Ages and the revolutionary developments of the Renaissance.

We have no reason to believe that Giotto thought of himself as a revolutionary. Rather, his art was revolutionary in the natural course of things. He reoriented the painter's way of representing the world, but this reorientation, as filtered through his génius, was the inevitable expression of a change in the way people thought and felt about the world. As the age of mystical faith waned, Giotto changed painting from an art of symbols to an art of passion. He tied painting to the earth —to the look of the world and to the emotions of people in the world—but by doing so he released it to explore in a multiplicity of directions the vast range of the human spirit and intelligence.

By the neatest coincidence, Giotto's Arena frescoes were created all but simultaneously with a parallel cycle of paintings on the same themes, also innovations but in a different sense. Between 1308 and 1311 Duccio di Buoninsegna was at work on an altarpiece for the Siena cathedral. The brilliance of his accomplishment seems less revolutionary than Giotto's, for Duccio made his innovations within the limits of medieval style. Yet he was the fountainhead of a school of late medieval painting—graceful and elegant, aristocratic and sometimes sophisticated, often intense to the point of neurasthenia—that flourished in Siena while Giotto's revolution was spreading around it. And by way of later Sienese painters, echoes of Duccio's influence carried northward to affect an international style that in turn contributed to the final miracle of medieval art—Flemish painting of the fifteenth century.

Giotto's chapel and Duccio's altarpiece are ready-made for a comparison in which Duccio represents a refinement within the boundaries of tradition and Giotto represents a climactic explosion that burst those boundaries. Giotto's power and Duccio's finesse are mutually intensified by juxtaposition; but Giotto's humanistic clarity and Duccio's mystical tenderness are seen to be shared, each by the other, to a degree not at first apparent. Each of the two painters achieved an expression so complete in itself that if one of them had never existed, or if none of his work had survived, it would have seemed to us that the other, whether Duccio or Giotto, had been the natural, the inevitable, the only possible and unapproachable master painter for that particular moment—a thought that could be a bit chastening to the art historian.

For anyone accustomed to thinking of the late Middle Ages in terms of a waning celestial dream but remembering its nascent humanism, Duccio's altarpiece is more to be expected than Giotto's chapel. The main panel of the altarpiece (see above) shows the Madonna as the Queen of Heaven, enthroned with the heavenly prince on her lap while saints and angels crowd around as an adoring court. Sumptuously attired, Duccio's Madonna is monumental not only in actual dimensions (standing, the figure might be eight or nine feet tall) but in what must be called spiritual scale. She is the true Queen of Heaven, and of aristocratic Siena also. The citizens have called the courtly scene the Maestà, or Majesty, ever since the altarpiece was carried through the streets in triumph from Duccio's workshop to the cathedral. This was on June 9, 1311, and it was cause for a citywide celebration.

A contemporary account of the occasion tells us: "On the day when it was brought to the cathedral, the shops were shut and the Bishop decreed a solemn procession of a large and devout company of priests and friars, accompanied by

Duccio's Maestà, for its part, has been called "the most imposing and valuable complex of paintings on wood that medieval Europe has left us." The Enthroned Madonna as Queen of Heaven (left) is the main composition from this magnificent altarpiece, whose various elements have become separated and dispersed. This single panel is 14 feet wide and 7½ feet high. The Madonna is surrounded by thirty different saints and angels, and busts of the apostles appear in a frieze of small niches at the top of the painting. An inscription in Latin along the foot of the Madonna's throne reads, "Holy Mother of God, grant peace to Siena, grant life to Duccio, because he painted thee thus."

the nine Signori and by all the officers of the Commune and all the populace; and one by one all the most worthy persons approached the picture with lighted candles in their hands and behind them the women and children in devout attitudes. And they accompanied the said picture to the cathedral, marching in procession round the Campo, as is the custom, while the bells sounded the Gloria, in homage to so noble a painting as this is. And they remained all day praying and gave many alms to poor persons, praying to God and to his Mother, who is our patroness and with her infinite mercy defends us from every adversity and evil and preserves us from the hands of traitors and enemies of Siena."

At that time the altarpiece, about fourteen feet wide, consisted of a large group of paintings; a predella of thirteen smaller subjects was beneath the main panel and sixteen small panels above it. The back of the altarpiece was also divided into numerous panels, that section corresponding to the principal area in front being divided into twenty-six parts relating the story of the Passion. The other, smaller panels, front and back, depicted additional events from the lives of Christ and the Virgin, or provided niches for a further congress of saints who had not been included in the immediate presence of the Madonna. All this was held within a base and frame so elaborately carved, pinnacled, and gilded that it must have glittered like a heavenly mansion. It was in effect a miniature architectural fantasy, in harmony with the cathedral which remains the most luxuriantly medieval structure in Italy.

This glorious structure was taken down from its place on the high altar in 1505, its architectural frame discarded, and placed in one of the chapels. Some two hundred and fifty years later the main section, with its Virgin and Child in front and its twenty-six scenes on the back, was sawn lengthwise into seven parts, the back and front pried apart, and the parts reassembled to make two separate paintings which were hung elsewhere in the cathedral. In 1878 the sadly butchered and dismembered work was once again moved, this time to the cramped little cathedral museum. Some of the panels had been lost; a few had found their way to museums or private collections in various places about the world. Much of the spiritual entity of the altarpiece was violated along with the violation of its physical being. The dispersal of the various elements in

museums may allow us to study them more closely as a group of independent aesthetic objects, but we have lost all sense of the Maestà as a religious object, the focal center of the cathedral, illuminated by candles and transforming the cathedral itself into the throne room of Paradise.

Familiar with the art of centuries of painters who had learned to imitate nature accurately, and surfeited with the acutely realistic images of decades of photography, we cannot imagine the overpowering impression of physical presence that Duccio's Madonna must have created six and a half centuries ago. Its reality was all the more vivid because the division between the physical world and the spiritual world was less drastic than it is now. The transcendent image and the human representation merged as a single identity, and thus Duccio's Madonna must have seemed invested with a true life, a warm life, for the special reason that he introduced human tenderness into what had been a tradition of aloofness.

From our point in time we see first the unrealistic character of Duccio's style—we even relish it as an abstract aspect of aesthetic intention. But a comparison of Duccio with one of the masters of the Byzantine tradition shows that he appealed to his contemporaries because he humanized a familiar tradition without diminishing its imperative and aristocratic elegance.

The Byzantine *Enthroned Madonna and Child* (opposite) was probably painted in Constantinople about a hundred years before the Maestà, but for purposes of comparison it may be used to represent the Byzantine tradition as it persisted in Italy into the fourteenth century. Much that can be said of Duccio's art is true also of this Byzantine painting: its regality and its aristocratic reserve divorce it from the commonplaceness of life; its goldenness, which is everywhere, is a heavenly goldenness; it accepts its own opulence as a natural and expected tribute from the faithful. But—and this we cannot say of the Maestà—the Byzantine Madonna is preponderantly a symbolic image, somewhat removed, fenced off from us by the nonrealism of the conventions of the Byzantine formulas for votive art, which were inherited from early Christian times when the realism of pagan art was unacceptable to the Church.

To the fathers of the Church, an abstract, symbolic representation seemed more appropriate and more respectful in treating the mystical Christian story. But the times had outgrown the formula. Saint Francis had celebrated nature as a manifestation of God's love. The corollary was that the artist should look at nature with new interest; the difficulty was that the techniques for representing things naturally—including especially the human figure—had been neglected for centuries. Duccio and Giotto, in their different ways, initiated the forms that expressed the new relationship between things human and things divine.

The extent of Duccio's departure is apparent if we can imagine seeing the Maestà or his earlier Rucellai Madonna (page 98) as his contemporaries saw them, in relation to such images as the Byzantine Madonna. Duccio sticks closely enough to certain inviolable conventions—the golden embracing throne, the positional relationship of the Madonna and the Child, even the tilt of her head. But the occupant of the throne, while no less an aristocrat, has become—by comparison—more a mother tenderly showing us her child than a hieratic image. The transformation is produced by a general rounding, softening, and sweetening of the forms.

"Softening and sweetening" can be derogatory terms if they indicate excess, but here they indicate only a gentling of severity, a humanization through a more realistic manner of representation. The robes fall more naturally, although they are patterned to make the most of the decorative beauty of sinuous hemlines embroidered in gold, and the gilded and enameled Byzantine mannequins are brought to life as sensate beings or, more accurately, as super beings. Duccio accepts and reveals their kinship to us without denying the transcendental position of these beings, who once existed on earth and whose love for us who remain there is our promise of salvation. Compared with Duccio's Madonna, the Byzantine painting remains a diagram, although a magnificent one.

And yet if the comparison is shifted to the other side, between Duccio's Madonna and the *Madonna Enthroned* by

TEXT CONTINUED ON PAGE 105

MUSEO NAZIONALE, PISA

Opposite and on the following seven pages the masterpieces discussed in this article are reproduced in gravure. In the fifteenth century, in his treatise on painting, Cennino Cennini observed that "Giotto turned the art of painting from Greek [i.e., Byzantine] into Latin, and rendered it modern." To see this transition, one need only compare the detail from a twelfth-century painted cross in Pisa (left) with the detail from Giotto's Lamentation *(page 104). Duccio brought the Byzantine style, typified by the example opposite, to a fresh, late flowering; but Giotto's achievement gave painting the direction it was to follow until the twentieth century.*

Byzantine School: *Enthroned Madonna and Child,* 13th century, wood, 33″ x 21″

National Gallery of Art, Washington, D.C., Mellon Collection

Duccio: *Madonna Enthroned* (Rucellai Madonna), c. 1285, wood, 14′ 9 1/2″ x 9′ 6 1/2″

Both Paintings Uffizi Gallery, Florence — Scala

Giotto: *Madonna Enthroned* (Madonna d'Ognissanti), c. 1310, wood, 10′ 8″ x 6′ 8 1/2″

Museum of the Cathedral, Siena – Aldo Martello

Duccio: *The Kiss of Judas,* 1308-11, from the Maestà, wood, 20″ x 29 7/8″

Museum of the Cathedral, Siena – Aldo Martello

Duccio: *The Three Marys at the Tomb,* 1308-11, from the Maestà, wood, 20 1/8″ x 21 1/8″

Arena Chapel, Padua – Scala

Giotto: *The Lamentation,* 1305-06, fresco, 7 1/2′ x 6 1/2′

TEXT CONTINUED FROM PAGE 96

Giotto that faces it on these pages, Duccio is turned into the exemplar of the old tradition, and Giotto is shown as the true innovator. Such words as "aristocratic," "reserved," "hieratic" applied to Duccio no longer need modification. One devotee of Sienese painting goes so far as to suggest that whereas Duccio's Madonna is a queen, Giotto's is a peasant. The Giotto may seem cumbersome because its realism leads us to look at it in terms of much later work rather than as the new thing it was. But in the figure of Enrico Scrovegni that we have already seen, Giotto's effort to create solid, three-dimensional forms on the direct model of nature was a total rejection of the Byzantine formulas for drawing that he inherited equally with Duccio. Duccio's Madonna can be compared with the Byzantine; Giotto's can only be contrasted with it. It is impossible to find a line in Giotto that exists for its beauty as a line; Giotto's lines exist only as the boundaries of forms that are as natural as Giotto can make them, while Duccio's exist as much for their inherent abstract beauty as for their delineating function.

It is extraordinarily convenient to use the enthroned Madonnas as a basis for comparison, but the most telling demonstrations of the genius of both Duccio and Giotto are the narrative sequences on the back of the Maestà and along the side walls of the Arena Chapel. It must be remembered, in seeing them in illustration, that the originals of the Duccios are only about twenty inches high, and hence are not drastically reduced in reproduction, while the Giottos, being about six and a half feet high, become miniatures of the originals. Thus, much of Giotto's breadth of form and execution is lost in reproduction; he may seem to approximate Duccio's close-range niceties, but he does not. And Duccio's medium, tempera that has subsequently been varnished to a gloss, is more adaptable to printed reproduction than Giotto's soft-textured fresco. There is no way out of this dilemma.

The finest of Duccio's panels is probably *The Three Marys at the Tomb* (page 102), whereas Giotto's consummate single expression is *The Lamentation* (page 103). The paintings are so different that they can only be discussed separately, and any comparisons between them, beyond those implied in what has already been written here, are pointless.

Duccio's *Three Marys at the Tomb* follows a pattern for the subject that had been laid down for centuries, but departs from it by using the old stage directions as the basis for a fully developed psychological drama. The directions are faithfully observed in a truly delightful and beautiful—but not very dramatic—late twelfth-century version of the scene in typical Italo-Byzantine style, from a painted cross in the Priory of Santo Sepolcro in Pisa (see page 96). The three Marys stand at the left bearing spices with which they had expected to anoint Christ's body. They are confronted by the angel, who, seated on the edge of the tomb, bears a cross in his left hand and points with his right to indicate the dislodged lid, telling the women that Christ has risen.

Identifiable by rote, the characters in this narrative diagram could evoke in the breasts of the faithful all the ingrained emotional associations of the Resurrection. But Duccio transforms this adequate charade into a drama. It is a moment too holy to be treated as melodrama; it must be invested with an air of miracle—we must know that we are in the presence of the supernatural, as are the three women who recoil slightly in the tense, blank moment before realization.

The Bible tells us that the women "fled from the sepulchre; for they trembled and were amazed." But how reduced would be the atmosphere of enchantment if Duccio had chosen to portray the moment when the women broke into hysteria and fled in an agitation of fluttering robes and abandoned spice canisters. Instead, they stand huddled against the far edge of the frame, confused and troubled, while the angel, graceful and assured in unrestricted space, is a pattern of ample gestures and gently eddying draperies. The whiteness of his robe further isolates him from the group of women, where the color is intense and tightly bound, and his halo is played like a sun at the apex of a triangle made by his wings and the shadowed area of the fantastic rocks. Although rocks of this general pattern are a convention that Duccio repeats in other panels, they serve here less as an indication of landscape than as an integral device to crystallize this supernatural moment forever within a few square inches of color and lines.

If *The Three Marys at the Tomb* shows Duccio at his best as a pictorial dramatist of subtlety and economy, *The Kiss of Judas* (pages 100–101) shows that he could also control a wider stage and set a larger cast into a balanced dynamic pattern. Several things are going on at once in this painting: in the center, Judas delivers the kiss of betrayal; at the left, Simon Peter cuts off the ear of one of Christ's captors; on the right, other disciples flee the scene.

The actors are not always quite as skilled as the director. They are not as convincing in their attitudes and facial expressions as he wants them to be. But no matter; the movement of the scene, in terms of line and mass, tells the story vividly and explicitly enough to rise above any limitations on the part of the performers.

Individually considered, the figures in the group on the right are not running; they are hardly in motion. Small wonder, since the problem of creating any illusion of continuous rapid movement in a painted figure continued to stump artists for nearly three centuries more. Yet Duccio creates an expression of flight. His figures rush outward as a group; we have the impression that they have torn themselves away from the clustered mass as part of an organism might tear itself away from the main body. The split takes the form of a widening V of landscape, emphatically marked by a tree driven like a spike into the wedge. The division is all but complete, with only a bit of the end of a robe and an overlapping sandaled foot to connect the fugitives with the central mass.

But this split is not enough to create the impression of movement. The forward leaning of the figures, emphasized by the nearest figure of the main group leaning in the opposite direc-

Giotto: Detail from *The Lamentation*

tion, gives part of the desired effect. But primarily the effect of movement is produced by line—the stretched lines of the backward-floating drapery that overlaps the main group; then the increasing agitation of other lines of drapery terminated by the fluttering, jagged, broken shape of the crevice in the hill above their heads, climaxing and then dissipating the movement as if the group had disappeared.

The denseness of the central group around Christ has a natural explanation since the soldiers are closing in for the arrest, but its extreme compactness, its inward pressure, gives dramatic vividness to a mere factual circumstance. The artist's problem was to focus attention on the two central actors while incorporating them within this mass. Christ's halo is a first and convenient device, something like a spotlight. (The tree above the halo, like a directional arrow, may be more than is needed.) More effectively because less obviously, the figures of Judas and Christ are bound together in an oval that runs from their

Detail from Giotto's Lamentation

heads down along the curved back of Judas and is picked up by the golden edge of Christ's robe, which snakes upward until the shape of the sinister trap has been clearly established.

The next problem is to combine the action of Peter, cutting off the captor's ear, with the main group, but at the same time to give it partial independence. Peter is separated first by his strong, lunging movement toward the left—which, more than incidentally, is also a counterbalance for the outward lunge to the right of the fleeing disciples. But if we follow downward a line from Peter's hand where it clasps his robe, we are led immediately along the hem of Judas's tunic and then up again along the edge of Christ's robe. And another tree is placed directly above Peter's head, surely not by coincidence.

We have been writing here as if both Duccio and Giotto had appeared unheralded and without precursors who could have taught them the rudiments of their innovations—as if they had completely and unexpectedly broken with a static tradition. While this is not quite so, it is nearly so. By forcing the point, we can find some hints of Duccio's new direction in a painter called Guido da Siena, but Duccio's own work really accounts for his whole revolution. Some of his important paintings are lost, but in those that remain we see a definite though spotty progress from a rather routine Byzantinism to the glory of the Maestà, which comes suddenly and is unequaled in the rest of his art. Some Duccio enthusiasts would prefer to consider that the Rucellai Madonna, which we here attribute to Duccio as a masterpiece second only to the Maestà, is the work of a contemporary of Duccio's. But since there is no contemporary who can be specified, even the doubters are usually forced to give it to Duccio by default.

Not much is known about Duccio as a person, although there are records—in those incredible centuries-old documents preserved in the files of Italian cities—of heavy fines and large bills for wine. Some of the fines are heavy enough for one to suppose they must have been for political transgressions, the offense taken most seriously by the courts. There are also records showing that in spite of the large sums he received for the Maestà, Duccio was forced to borrow heavily, and he seems to have ended his life in bankruptcy. Nowhere in surviving records is he celebrated by his intellectual contemporaries as an important artist. He remains the typical medieval artist; painters at that time were considered—even by the artists themselves—as craftsmen who developed their methods of expression primarily as expert workmen and who did not yet enjoy the status of supermen that the Renaissance was to give its great artists. His Maestà, celebrated as it was, was revered primarily as a votive object. Its aesthetic qualities may have been admired, but only as adjuncts to its spiritual affiliations.

The records on Giotto are much more complete. He was a practical man who made a great deal of money and managed his affairs well, but he was not the moneygrubber or the shady financial manipulator that some early biographers made him out to be. He owned land and lent money at interest like any good prosperous Florentine, but there is no indication that he was anything but an honest man as well as a successful one. We know without question that, unlike Duccio, he was famous and admired as a man of extraordinary gifts beyond those of hand and eye. The fact that he was a Florentine may account for the high esteem in which he was held, for it was Florence that would discover the artist as a man of God-given talents and feelings. Thus Giotto might in a double sense be considered the first Renaissance artist. (Two hundred years after Giotto, Michelangelo was to acquire the sobriquet "The Divine" during his lifetime.) Lorenzo the Magnificent was instrumental in having a memorial tablet to Giotto placed in the cathedral in Florence as a retrospective tribute, but Giotto's friend Dante had already written, in Canto XI of *Purgatorio*:

> *In painting Cimabue thought to hold*
> *the field; now hath Giotto all the cry,*
> *so that the other's fame is less extoll'd.*

Cimabue is the link between conventional Byzantinism and Giotto's drastic revolution, and Giotto has been called, without the best basis in the world, Cimabue's pupil. Giotto may or

may not have had a hand in the famous cycle of frescoes in the Basilica of Saint Francis at Assisi, and most of his later frescoes have suffered badly from repainting; the Arena Chapel remains his unquestioned and unviolated masterwork, and it is difficult to believe that any lost works by Cimabue or by other artists could give more than the faintest hints of precedents. Giotto's sources are the subject of constant scholarly detective work, but they are unimportant in comparison to his individual genius.

The Arena frescoes, when you enter the chapel, give an impression of pearliness that does not survive in reproductions. Photography and reduction in size somehow produce a heaviness of outline that flattens the roundness of the figures; the camera makes Giotto's full volumes tend toward mere bulkiness, perhaps because the soft, powdery surface of the frescoes does not come through. Nor can the individual scenes of the cycle, separated from their companions, give any impression of the majestic progression of the story as it follows from one section to the next along the chapel walls, with each incident conceived in its own appropriate emotional air as a unit in a—the word is inevitable—symphony.

But no apologies are really necessary in the face of the power that must be felt even when a painting like *The Lamentation* is reproduced in isolation on a page of a book. It is the kind of picture that strains every adjective and demands the adjectives that have become threadbare in descriptions of lesser art—adjectives such as "noble," "compassionate," and "monumental."

Arranged on a shallow stage, the figures in *The Lamentation* suggest comparison with sculpture, and it was probably from analyzing sculpture rather than painting that Giotto learned most. The figures are remarkable for their fullness and solidity, qualities that are set off by the band of angels who, fading into the diaphanous sky, swirl and flutter in an agony of grief like frantic birds. The barren landscape holds a single tree, leafless —for what can grow and flourish in the face of such tragedy? Symbolically, however, the tree is a happier prophecy. Dante describes a Tree of Knowledge, withered through the sin of Adam and Eve, but revivified by the death of Christ, the sacrificial atonement for original sin, and the restorer of life.

Yet this literary reminder is incidental to the impact of the painting, an impact that would be great even if it were divorced from the Christian story. The composition of *The Lamentation* is as complex as it is clear, and should be read in three-dimensional volumes rather than in line. True, the arrangement is based on a great swaglike movement defined by the body of Christ and buttressed by the columnar standing figures on either side, but to trace this unifying element as a line on the surface of the wall, as we can do with Duccio, is to flatten a sculptural group where the mourning figures occupy, singly, their own space and, together, define a hollow in which the body of Christ and his mother are embraced.

If there is a disrupting note in this scheme, it is the haloes, which intrude on the modeled forms and must, of necessity, be worn like so many golden platters by saints who otherwise are conceived as human beings suffering human grief. *The Lamentation* is a great Christian painting in Christian context, but outside that context it is simply a great painting. The figures, one by one and as an entity, tell a story of such passion that we are moved as human beings whatever our religion. The Virgin as she mourns her dead son is a woman suffering the anguish of her own loss, but beyond that she is the universalized expression of an emotion that each of us can share. Like any great tragic composition, whether written or painted, this one involves us as vicarious participants and purifies us through pity, if not through terror.

This was the nature of Giotto's revolution—that he re-established our recognition of the capacity for grandeur in human emotion. His technical revolution in the direction of realistic representation was only the necessary adjunct to this concept.

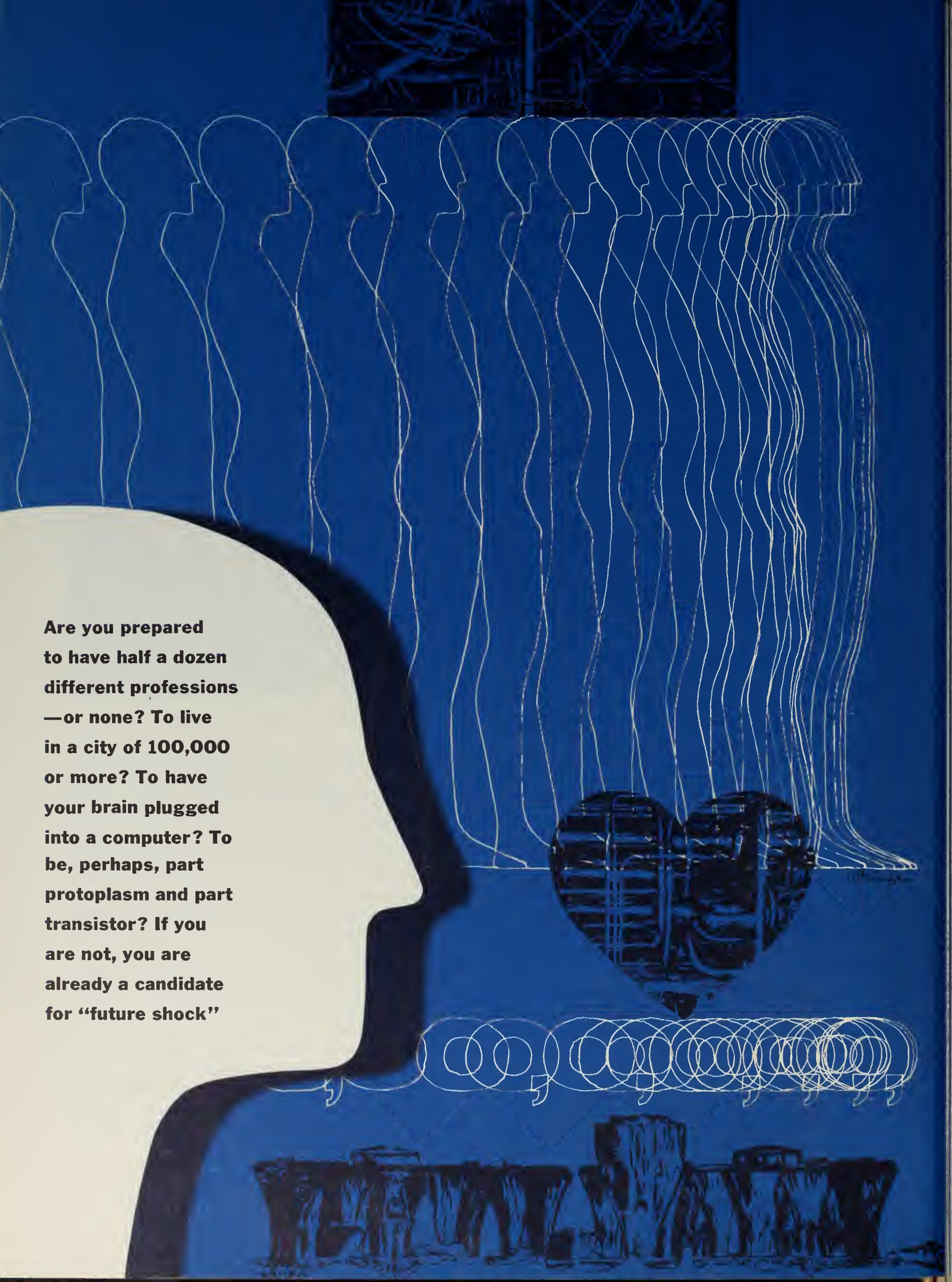
Detail from Giotto's Lamentation

Giotto is sometimes called the medieval climacteric because of the power of his narration of the Christian story. He is usually called the first Renaissance artist because in humanizing that story he opened a tradition of reference to nature. He is both of these. And he is also a great artist in the classical tradition, which ennobles man in his physical being as a vessel of the intellect and the spirit.

If we can say all this with truth of a single artist, we are saying that his art is beyond time and place. We are saying that Giotto's art is universal.

This is the sixth in a series of articles about great artists by John Canaday, art editor of The New York Times. *In future issues he will appraise the work of other painters.*

For further reading: Duccio di Buoninsegna *by Enzo Carli and* Giotto *by Cesare Gnudi (both books published in English with handsome illustrations, Aldo Martello, Milan, 1962 and 1960, respectively);* Italian Painters of the Renaissance *by Bernard Berenson (Phaidon-N.Y. Graphic Society, 1957, also published in paperback by Meridian).*



Are you prepared to have half a dozen different professions —or none? To live in a city of 100,000 or more? To have your brain plugged into a computer? To be, perhaps, part protoplasm and part transistor? If you are not, you are already a candidate for "future shock"

By ALVIN TOFFLER

The Future as a Way of Life

"It's a poor sort of memory that only works backwards."
—The White Queen in *Through the Looking-Glass*

As more Americans travel abroad, the term "culture shock" is beginning to creep into the popular vocabulary. Culture shock is the effect that immersion in a strange culture has on the unprepared visitor. Peace Corps volunteers suffer from it in Borneo or Brazil. Marco Polo probably suffered from it in Cathay. Culture shock is what happens when a traveler suddenly finds himself in a place where "yes" may mean no, where a "fixed price" is negotiable, where to be kept waiting in an outer office is no cause for insult, where laughter may signify anger. It is what happens when all the familiar psychological cues that help an individual to function in society are suddenly withdrawn and replaced by new ones that are strange or incomprehensible.

The culture-shock phenomenon accounts for much of the bewilderment, frustration, and disorientation that plague Americans in their dealings with other societies. It causes a breakdown in communication, a misreading of reality, an inability to cope. Yet culture shock is relatively mild in comparison with a much more serious malady that might be called "future shock." Future shock is the dizzying disorientation brought on by the premature arrival of the future. It may well be the most important disease of tomorrow.

Future shock will not be found in *Index Medicus* or in any listing of psychological abnormalities. Yet, unless intelligent steps are taken to combat it, I believe that most human beings alive today will find themselves increasingly disoriented and, therefore, progressively incompetent to deal rationally with their environment. I believe that the malaise, mass neurosis, irrationality, and free-floating violence already apparent in contemporary life are merely a foretaste of what may lie ahead unless we come to understand and treat this psychological disease.

Future shock is a time phenomenon, a product of the greatly accelerated rate of change in society. It arises from the superimposition of a new culture on an old one. It is culture shock in one's own society. But its impact is far worse. For most Peace Corps men, in fact most travelers, have the comforting knowledge that the culture they left behind will be there to return to. The victim of future shock does not.

Take an individual out of his own culture and set him down suddenly in an environment sharply different from his own, with a different set of cues to react to, different conceptions of time, space, work, love, religion, sex, and everything else; then cut him off from any hope of retreat to a more familiar social landscape, and the dislocation he suffers is doubly severe. Moreover, if this new culture is itself in a constant turmoil of revolutionary transition, and if—worse yet—its values are incessantly changing, the sense of disorientation will be still further intensified. Given few clues as to what kind of behavior is rational under the radically new circumstances, the victim may well become a hazard to himself and others.

Now imagine not merely an individual but an entire society, an entire generation—including its weakest, least intelligent, and most irrational members—suddenly transported into this new world. The result is mass disorientation, future shock on a grand scale.

This is the prospect that man now faces as a consequence of accelerated change—the prospect of dislocation far more subtle, complex, and continuous than any we have known. Change is avalanching down upon our heads and most people are utterly unprepared to cope with it.

Is all this exaggerated? I think not. It has become a cliché to

"The period we are now living through represents nothing less than the second great divide in human history"

say that we are now living through a "second industrial revolution." This phrase is supposed to impress us with the speed and profundity of the change around us. But beyond being platitudinous, it is misleading. For what is occurring now is a transformation that is, in all likelihood, bigger, deeper, and more important than the industrial revolution. In fact, there is a growing body of reputable opinion that the period we are now living through represents nothing less than the second great divide in human history, comparable in magnitude only with that first great break in historic continuity, the shift from barbarism to civilization.

This idea has begun to occur with increasing frequency in the writings of scientists, social critics, economists, business analysts, and others. For example, Sir George Thomson, the British physicist and Nobel prize winner, suggests in *The Foreseeable Future* that the nearest historical parallel with today lies in the "invention of agriculture in the neolithic age." John Diebold, the automation expert, is among many who assert that we are seriously underestimating the degree of change that will occur in our society as a result of cybernetics. "It is the *rate of change* itself which I believe to be the most significant phenomenon of all," he writes. He warns that "the effects of the technological revolution will be deeper than any social change we have experienced before." Kurt W. Marek, the student and popularizer of archaeology, observes that "we, in the twentieth century, are concluding an era of mankind five thousand years in length. . . . We are not, as Spengler supposed, in the situation of Rome at the beginning of the Christian West, but in that of the year 3000 B.C. We open our eyes like prehistoric man, we see a world totally new." Lewis Mumford in *The City in History* writes ominously about the coming of "Post-historic Man."

The most recent and elaborate statement of this theme has come from Kenneth Boulding, an eminent economist and an imaginative social thinker. Referring to the twentieth century as the second great transition in the history of mankind, Boulding writes:

"The first transition was that from precivilized to civilized society . . . This is a transition that is still going on in some parts of the world, although it can be regarded as almost complete. Precivilized society can now be found only in small and rapidly diminishing pockets in remote areas. It is doubtful whether more than 5 per cent of the world's population could now be classified as living in a genuinely precivilized society.

"Even as the first great transition is approaching completion, however, a second great transition is treading on its heels. It may be called the transition from civilized to postcivilized society."

Most of those who make this comparison merely state it and let it go at that. Boulding, in a series of lectures and articles and in his latest book, *The Meaning of the Twentieth Century*, attempts to justify this dramatic view of the present as a truly nodal moment in human history. Among other things, he points out that "as far as many statistical series related to activities of mankind are concerned, the date that divides human history into two equal parts is well within living memory." In effect, he is saying, our century represents The Great Median Strip running down the center of human history. This is a startling assertion, but it is borne out in many ways.

Dr. Homi Bhabha, a distinguished Indian atomic scientist and the Chairman of the first International Conference on the Peaceful Uses of Atomic Energy, once analyzed the rate at which energy consumption is rising. "To illustrate," he said, "let us use the letter Q to stand for the energy derived from burning some thirty-three thousand million tons of coal. In the eighteen and a half centuries after Christ, the total energy consumed averaged less than half a Q per century. But by 1850, the rate had risen to one Q per century. Today, the rate is about ten Q per century." This means, roughly speaking, that half of all the energy consumed by man in the past two thousand years has been consumed within the last one hundred.

A comment from Boulding serves almost as a footnote to this finding: "For many statistical series of quantities of metal or other materials extracted, this date [i.e., the dividing line] is about 1910. That is, man took about as much out of mines before 1910 as he did after 1910."

The same is true of another kind of mining—the mining of knowledge. Information, itself a prime catalytic force in the process of social change, is proliferating at a mind-numbing rate. According to Charles P. Bourne of the Stanford Research Institute, the number of significant journals now being published around the world is on the order of fifteen thousand with perhaps a million significant papers in them each year. These figures do not include books and other forms of publication. Information specialists say that the sheer quantity of information is now doubling every ten years.*

Population is, too. Boulding calls to our attention the striking fact that about 25 per cent of all the human beings who have ever

*This problem of the future was contemplated in September, 1962, by John Rader Platt in an article published by HORIZON entitled "Where Will the Books Go?"

"By the year 2000 one quarter of all the people in the world will be living in cities of 100,000 or more. By 2050 the figure will be one half"

lived are now alive, and it is clear from other sources that before long that figure, too, will reach 50 per cent. Sir Julian Huxley has pointed out that it took Homo sapiens at least a hundred thousand years to reach a population of two-thirds of a billion. "This was in 1650," Huxley notes. "From this date, it took nearly two hundred years for world population to double itself once, but the second doubling took only one hundred years. It has more than doubled itself again in the sixty-four years of the present century and will certainly double itself still again within the next forty years."

Similarly, ours is the century in which, at least in many countries, agriculture has ceased to be the dominant economic activity. This is particularly important because of the close historical relationship between agriculture and what we fondly call civilization.

Without the development of agriculture, Boulding reminds us, there could have been no food surplus to support "knowledge workers" in society and there would have been no coalescence of the city. But the surplus food supply made possible by agriculture in ancient societies was meager at best. "Whether it was Sumeria, Egypt, Greece, Rome, Ancient China, the Incas, or the Mayans, all these were societies based on a food surplus . . . that rarely exceeded 20 or 25 per cent of the total product. In these circumstances three quarters to four fifths of the population [had to devote themselves to] agriculture or other food production, and these people [could] barely produce enough to feed the remaining quarter or fifth of the population . . . Almost all the cities of classical civilization were within a few weeks of starvation at any time . . ."

In contrast, in the United States today only 10 per cent of the population is engaged in agriculture, and this small percentage is capable of producing more food than anyone knows what to do with. Moreover, it is obvious, as Boulding observes, that "if present trends continue it will not be long before we can produce all the food that we need with 5 per cent, or even less, of the population."

In the United States a further stage has been reached. In 1900 the non-farm-labor force already outnumbered the agricultural labor pool. But of this non-farm group, 57 per cent were in blue-collar occupations. By 1960, more Americans were wearing white collars than blue. This, too, represented a qualitative change in society. For the first time in human history a society, having shrugged off the economic domination of agriculture, proceeded to shrug off the domination of manual labor.

Still another "first" is within sight. According to Professor Kingsley Davis, an authority on urbanization, by the year 2000—only thirty-five years off—one quarter of all the people in the world will be living in cities of a hundred thousand or more. By 2050 the figure will be one half of the world's population. What this shift will mean in terms of values, family structure, jobs, politics, and the structure of cities themselves, is staggering.

All these changes represent giant spurts in movements that have been continuous, in one form or another, since history began. If we add to these truly historic jumps the list of developments or processes that simply did not begin until the twentieth century—air travel and space flight, television, the development of nuclear energy, the invention of the computer, the discovery of DNA with its possibilities for the control of evolution—the sharpness of the break with the past becomes even clearer. Given these, it becomes impossible to sustain the argument that what is happening now is anything like "normal" progress, even for the kind of industrial society we have known for the past century. It is not merely a "second industrial revolution." Viewed as a violent break with historic continuity, our age takes on a significance that few ages in the past have had.

Nevertheless, isn't it possible that the life of the individual will remain largely untouched? The answer is that the mood, the pace, the very "feel" of existence, as well as one's underlying notions of time, beauty, space, and social relations will all be shaken.

Take the matter of tempo. John Diebold never wearies of pointing out to businessmen that they must begin to think in terms of shorter life spans for their products. Smith Brothers' Cough Drops, Calumet Baking Soda, Ivory Soap, have become institutions by virtue of their long reign in the market place. In the days ahead, he suggests, few products will enjoy such longevity. Corporations may create new products knowing full well that they will remain on the market for only a matter of a few weeks or months. By extension, the corporations themselves—as well as unions, government agencies, and all other organizations—may either have shorter life spans or be forced to undergo incessant and radical reorganization. Rapid decay and regeneration will be the watchwords of tomorrow. The men and women who live, work, and play in a society where whole categories of merchandise seen on the shelves of the nearby store last month are no longer manufactured today and where their own place in the bureaucratic structure of society is being constantly reshuffled,

"What happens to the definition of man when one's next-door neighbor or oneself may be equipped with an electronic or mechanical lung, heart, kidney, or liver?"

will have to use entirely new yardsticks for measuring the passage of time in their own lives.

Even our conceptions of self will be transformed in a world in which the line between man and machine grows increasingly blurred. It is now almost certain that within a matter of years the implantation of artificial organs in human bodies will be a common medical procedure. The human "body" in the future will often consist of a mixture of organic and machine components. What happens to the definition of man when one's next-door neighbor or oneself may be equipped with an electronic or mechanical lung, heart, kidney, or liver, or when a computer system can be plugged into a living brain? How will it "feel" to be part protoplasm, part transistor? What new possibilities will it open? What limitations will it place on work, play, sex, intellectual or aesthetic responses? How will it feel to have information transferred electronically between computer and brain? What happens to mind when body is changed? Such fusions of man and machine—called "Cyborgs"—are closer than most people suspect. As *Fortune* magazine, not ordinarily given to overstatement, has reported, "these are not just fantasies; they are extensions of work already being done in laboratories."

Allied to this are the implications of research being done today on the operations of the brain. For the first time, we are beginning to understand something about how the brain functions. The scientist and philosopher Percy Bridgman has observed that "thinking is done with the brain, which is a nervous system," and that "any possible thought must be subject to the limitations imposed by the system which produces it . . . all human thinking since the beginning of thought has been ignoring inexorable limitations. When we find what the limitations are I believe that our philosophy, religion, and politics will be revolutionized."

Similarly, as Professor Boulding points out, our very conception of life itself will be smashed and replaced. "The implications of the biological revolution alone are immense," he says. "We have the code of life. We can't write it yet, but that cannot be too far off. Artificial virus is close. This is the synthesis of life. Before long we may well crack the secret of aging. What happens when we do? Even if life were increased by twenty or forty years, it would shatter every relationship and institution we now know —the family, sex, marriage, the relationship between age groups, education. The work now being done raises the question: Is immortality possible?

"Even if what is involved is only a finite extension of the life span, it creates all kinds of new ethical problems. Who gets immortality or added years? On what basis? The medical profession today already faces unusual ethical problems in connection with deciding which of many patients who need it will be lucky enough to be plugged into the new artificial kidneys. There will be other moral issues—completely new to us. All this sounds utterly farfetched, but I would not be at all surprised to see some of these things come to pass by the end of the century. Sound close? Remember that it was less than thirty-five years from Los Alamos and Hiroshima back to Rutherford's basic discoveries about the nucleus of the atom. And things are moving much faster today."

Work, too, is being transformed. There was a time when for men "the job" was a central organizing principle of life. One's living arrangements, one's hours, income, everything, was determined, or at least heavily influenced, by the nature of one's job. In the cybernetic society that lies around the corner the entire present occupational structure of society will be overthrown. A great many professions simply will not exist, and new ones as yet unpredicted will spring up. This must radically affect the texture of everyday life for millions.

In the past it was possible to know in advance what occupations would exist when a boy became a man. Today the life span of occupations has also been compressed. The computer programmer, who was first heard of in the 1950's, will be as extinct as the blacksmith within a matter of years, perhaps by 1970. Individuals now train for a profession and look forward to remaining in that profession for the entire period of their working life. Yet within a generation the notion of serving in a single occupation for one's entire life may seem quaintly antique. Individuals may need to be trained to serve successively in three, four, or half a dozen different professions in the course of a career. The job will no longer serve as man's anchor and organizing principle.

The shrinking role of the job will be further diminished by the extension of leisure. Within half a century the productive machinery of society may need so few tenders that a great many individuals—and not just women—will be born who will simply never work a day in their lives at a paid job. Those who do work will, without question, work shorter hours than we do today. The work week has been cut by 50 per cent since the turn of the century. It is not out of the way to predict that it will be slashed

"When a mother talks about Johnny becoming a lawyer, she is deceiving herself and her son because she has no conception of what being a lawyer will mean two decades hence"

in half again by 2000. This is not so far off that we can shrug the implications aside. How will we spend the long hours away from work? How will the role of the father be transformed with the loss of his historic role as family provider? What new forms of leisure will emerge? In a society in which work has become less central than it has been, how will we determine the esteem in which we hold a man?

Whether any or all of these developments occur precisely in the way suggested is not important. The commanding point is that we can anticipate volcanic dislocations, twists and reversals, not merely in our social structure, but also in our hierarchy of values and in the way individuals perceive and conceive reality. Such massive changes, coming with increasing velocity, will disorient, bewilder, and crush many people.

We think of ourselves as sophisticated and well educated, but how well prepared are we, as a society, to cope with the sudden new sensations, pains, intellectual turnabouts, eruptions, and shifts in perception that are likely to confront us as we speed forward into a culture in which computers can learn, and can improve upon their own performance, in which man is no longer the only manifestation of high-level intelligence on the face of the earth, and in which, in fact, he may come crash up against the realization that his globe is not the only inhabited parcel of real estate in the universe?

"We all need," says psychiatrist John R. Rees, Honorary President of the World Federation of Mental Health, "a sense of our own identity, that we have a certain place in the structure of our society, and that we fit into that. We have constantly to change our identity when we move into a different sort of world, and we often get considerable confusion of identity, something that is disturbing to many people. They cannot take it . . ."

If the degree of change and the speed of that change is even remotely close to what I have suggested, it must be obvious that the shift to Professor Boulding's "postcivilization" may place unendurable stress on a great many people. For the current upbringing of most people, and the subtly inculcated sense of time that comes with it, are both inimical to adaptability.

A psychologist named Lawrence LeShan some years ago conducted an experiment in time orientation among groups of subjects from different socio-economic classes. Those from what he designated as the lower class tended to look at time in terms of immediate action and immediate gratification. The future was nebulous and unpredictable. There was a tendency for them to believe, as many Arabs do, that any attempt to predict the future is not only futile but evidence of mild lunacy.

In the sample highest up the economic ladder, LeShan found a pronounced identification with the past. Johnny is told, if he flunks his civics course, that his grandfather would have been ashamed of him. Family meals are set at fixed, traditional hours, rather than when hunger strikes or at convenient times. To a degree, lives are lived to carry out sequences started by previous generations.

Among the middle-class group, LeShan found a totally different time orientation. These subjects tended to think in terms of longer time sequences than the lower-class group. Children were taught to orient themselves toward goals fixed in the fairly distant future. Johnny is told to study not because his grandfather would be ashamed of him for flunking but because flunking might make it impossible for him to achieve the goal of becoming a lawyer or doctor or whatever.

But while these time orientations differ, they all assume either an unpredictable or an unchanging future. The assumption of the middle- and upper-class samples is that the contours of society will stay the same in the future. When a middle-class mother talks about Johnny becoming a lawyer, she is deceiving herself and her son because she has no conception of what being a lawyer will mean two decades hence. She has no notion of the potential, for example, of "jurimetrics." Jurimetric research, a product of the computer revolution, involves electronic data processing, information storage and retrieval (collecting, collating, and making immediately available all relevant legal precedents), the analysis of legal decisions, and the use of symbolic logic. It may have immense consequences for the making and administration of law, as well as the pleading of cases. Mama does not know it, but the lawyer of the future will not fit the mold she has in mind.

The fact is—and simple observation of one's own friends and associates will confirm it—that even the most educated people today operate on the assumption that society is relatively static. At best they attempt to plan by making simple straight-line projections of present-day trends. The result is unreadiness to meet the future when it arrives. In short, future shock.

What, if anything, can be done to lessen this shock and the disorientation and disability that come with it? Society has many

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built-in time spanners that help to link the present generation with the past. Our sense of the past is developed by contact with the older generation, by our knowledge of history, by the accumulated heritage of art, music, literature, and science passed down to us through the years. It is enhanced by immediate contact with the objects that surround us, each of which has a point of origin in the past, each of which provides us with a trace of identification with the past.

No such time spanners enhance our sense of the future. We have no objects, no friends, no relatives, no works of art, no music or literature, that originate in the future. We have, as it were, no heritage of the future.

Despite this, there are ways to send the human mind arching forward as well as backward. We need to begin by creating a stronger future-consciousness on the part of the public, and not just by means of Buck Rogers comic strips and articles about the marvels of space travel or medical research. These make a contribution, but what is needed is a concentrated focus on the social and personal implications of the future, not merely on its technological characteristics.

If the contemporary individual is going to have to cope with the equivalent of millenniums of change within the compressed span of a single lifetime, he must carry within his skull a reasonably accurate (even if gross) image of the future.

Medieval men possessed one—an image of the afterlife, complete with vivid mental pictures of heaven and hell. We need now to propagate a dynamic, nonsupernatural image of what temporal life will be like, what it will sound and smell and taste and feel like in the fast-onrushing future.

To create such an image and thereby soften the impact of future shock, we must begin by making speculation about the future respectable. Instead of deriding the "crystal ball gazer," we need to encourage people, from childhood on, to speculate freely, even fancifully, not merely about what next week holds in store for them but about what the next generation holds in store for the entire human race. We offer our children courses in history; why not also make a course in "Future" a prerequisite for every student, a course in which the possibilities and probabilities of the future are systematically explored, exactly as we now explore the social system of the Romans or the rise of the feudal manor?

We train our Peace Corps volunteers by attempting to give them advance knowledge about the conditions and culture of the country to which they are assigned. In doing so, we minimize culture shock. Why not devise an education designed to minimize future shock?

We do not have a literature *of* the future, but we do have literature *about* the future, consisting not only of the great utopias but also of contemporary science fiction. Science fiction is held in low regard as a branch of literature, and perhaps it deserves this critical contempt. But if we view it as a kind of sociology of the future, rather than as literature, science fiction has immense value as a mind-stretching force for the creation of future-consciousness. Our children should be studying Arthur C. Clarke and Robert Heinlein and William Tenn not because these writers can tell them about rocket ships and time machines but, more important, because they can lead young minds through an imaginative exploration of the jungle of political, social, psychological, and ethical issues that will confront these children as adults. Science fiction should be required reading for Future I.

But science fiction is largely speculative, and while speculation is useful, we must go beyond it. We must kill, once and for all, the popular myth that the future is "unknowable."

At the last meeting of the American Association for the Advancement of Science a University of Colorado researcher named George A. Dulk predicted that a burst of radio signals from the planet Jupiter would be received in Colorado at midnight, December 31, 1964. On New Year's Eve, at 11:40 P.M.—just a few minutes ahead of schedule—a radio signal that sounded like the sizzle of a frying pan was picked up by the eighty-five-foot radio telescope at the National Center for Atmospheric Research. Since the signals did not come from intelligent creatures at the other end—there was never any question of that—the fulfillment of Dulk's prediction caused only a minor stir. For predictions—even startling predictions—of this kind are, of course, the bread and butter of science. They are entirely routine.

Every day brings improvement in man's ability to peer into the darkness ahead, and this is true in the social as well as the "hard" sciences. It is now possible to predict with fair accuracy a wide range of social phenomena—such as the number of babies to be born in Indiana in the first three months of 1970, the way in which the housewife will divide her income between purchases and savings next year, the percentage of the national production that will be allocated to wages in any given year, the number of people who will die of bathtub accidents, and, within a per-

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centage point or two, the number of Americans who will vote for one Presidential candidate over another.

It would, of course, be foolish to oversell the ability of science, "hard" or "soft," to foretell the future. But the danger today is not that we will overestimate this ability, but that we will underutilize it. "Instead of thinking that either we can or cannot predict the future," wrote William F. Ogburn, one of the century's great students of social change, "we should admit into our thinking the idea of approximations, that is, that there are varying degrees of accuracy and inaccuracy of estimate." Furthermore, he pointed out, complete accuracy is not necessary in many fields. A rough idea of what lies ahead is better than none.

Thus, in addition to encouraging the speculative turn of mind, we must undertake to train individuals in the techniques of prediction and of scientific method in general. This does not mean more courses in biology or physics or chemistry. It means more attention to philosophy and logic, and perhaps special courses in "how to predict." How many of us, even among the educated public, understand the meaning of a random sample, or of probability, or of prediction by correlation? This does not mean that all of us need to be statisticians or logicians or mathematicians. But the principles of scientific prediction can and should be grasped by every youngster who graduates from high school, for these are *not* merely the tools of "scientific research," they are powerful instruments for dealing rationally with the problems of everyday existence. Ignorance of them constitutes a form of functional illiteracy in the contemporary world.

The willingness to speculate freely, combined with a knowledge of scientific method and predictive techniques, is coming to be valued in precisely the place where, in the past, the greatest emphasis has been placed on conservativism and feet-on-the-ground "realism." Corporations are beginning to hire men who are, in effect, staff prophets, men willing to look ahead ten years or more. "A few years ago," says Tom Alexander in *Fortune* magazine, "most such people were called crackpots. A lot of bitter recent experience has shown that such crackpots are too often likely to be right, and that it is usually the 'sound thinkers' who make fools of themselves when it comes to talking about the future." Shortly after reading this, I learned of a giant corporation that is looking for a science-fiction writer to come in, analyze its operations, and write a report about what the company will look like fifty years from now.

The idea of hiring "prophets," "wild birds," or "blue-skyers," as they are variously known, is one that should be adopted not only by corporations but by all the major institutions of our society. Schools, cultural organizations, and government agencies at the city, state, and federal level, should begin to emulate industry in this respect. It would be refreshing and healthy if some of these blue-skyers were to be retained by Congress and state legislatures. They should be invited into classrooms to lecture and lead discussions all over the country. This could have more than direct educational value. It would, I believe, thrill and inspire our children, many of whom now look forward to the future with foreboding and a sense of futility.

Finally, we might consider creating a great national or international institute staffed with top-caliber men and women from all the sciences and social sciences, the purpose of which would be to collect and systematically integrate the predictive reports that are generated by scholars and imaginative thinkers in all the intellectual disciplines all over the world. Of course, those working in such an institute would know that they could never create a single, static diagram of the future. Instead, the product of their effort would be a constantly changing geography of the future, a continually re-created overarching image based on the best predictive work available. The men and women engaged in this work would know that nothing is certain; they would know that they must work with inadequate data; they would appreciate the difficulties inherent in exploring the uncharted territories of tomorrow. But man already knows more about the future than he has ever tried to formulate and integrate in any systematic and scientific way. Attempts to bring this knowledge together would constitute one of the crowning intellectual efforts in history—and one of the most worthwhile.

Man's capacity for adaptation may have limits, but they have yet to be defined. If, as Margaret Mead has shown, the Manus of New Guinea could, within a twenty-five year period, pass from Stone Age primitivism into a twentieth-century way of life, and do so happily and successfully, modern man should be able to traverse the passage to postcivilization. But he can accomplish this grand historic advance only if he forms a better, clearer, stronger conception of what lies ahead. This is the only remedy for the phenomenon of future shock.

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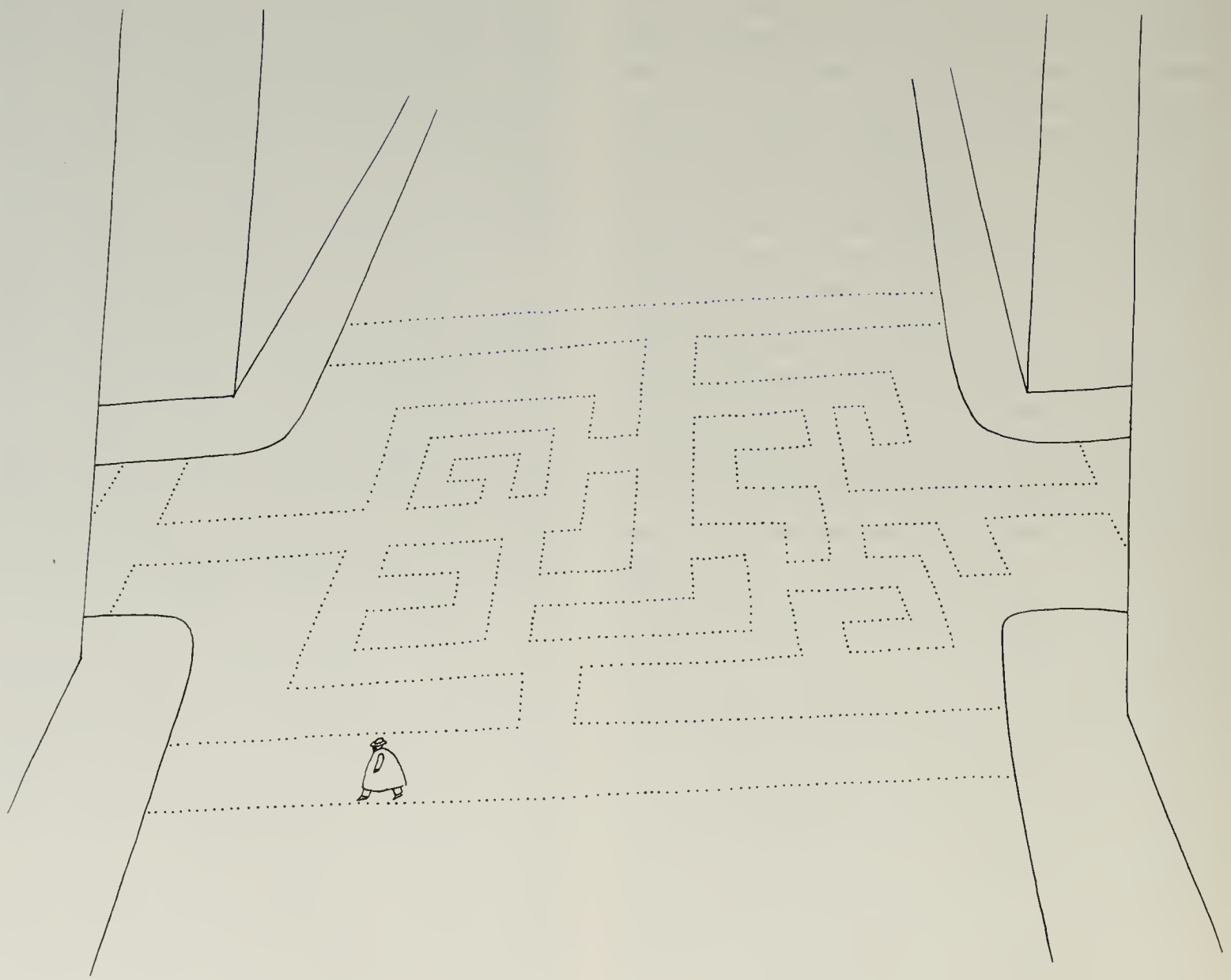
New York, Site Unseen

Drawings by JEAN MICHEL FOLON



Before he saw New York for the first time, earlier this year, Jean Michel Folon, a young French architect-turned-artist, prefigured the city scene from visions in his mind's eye. As revealed in the accompanying drawings, his expectations led him to picture a cityscape of labyrinthine streets; jigsaw patterns of inchoate forms; lonely, preoccupied pedestrians; towering thickets of TV antennae; and a bewilderment of newsprint that, beyond control, transmogrifies into endlessly windowed facades–and one aspiring tree. Folon, far from disenchanted by his visit to the city, finds his fantasies are now reshaping after splintering on unexpected actualities.